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GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board

ON

INDIAN RAILWAYS

FOR

1954-5

Volume I

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MINISTRY OF RAILWAYS

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PRINCIPAL STATISTICS OF RAILWAY OPERATIONS*

I.—ALL INDIAN RAILWAYS

Items	1949-50	1950-1	1951-2	1952-3	1953-4	**1954-5**
Capital at charge (crores) Rs	813·07	838·18	861·57	868·55	878·46@	**910·91**
Route mileage as on 31 March	34,022·29	34,078·94	34,119·44	34,274·98	34,405·58	**34,705·16**
Gross earnings (crores) Rs	258·32	264·62	294·14	272·28†	272·81†	**288·59†**
Total working expenses (crores) Rs	207·23	214·39	227·58	219·99†	†232·02@	**235·99†**
Operating ratio (per cent)	80·17	81·02	77·37	80·79	85·05@	**81·77**
Number of passengers originating (million)	1,255·26	1,307·79	1,232·10	1,212·09	1,220·40	**1,259·15**
Passenger miles (million)	40,019·72	41,671·74	39,550·77	37,396·27	37,548·57	**38,649·31**
Earnings from carriage of passengers (crores) Rs	95·25	99·22	111·42	101·83	101·35	**103·74**
Average earnings per passenger mile Pies	4·57	4·57	5·41	5·23	5·18	**5 15**
Freight tons originating (million)	91·58	92·34	97·87	98·37	99·36	**106·98**
Freight ton miles (million)	25,464·68	27,007·52	29,017·66	28,961·46	29,567·52@	**32,135·91**
Earnings from carriage of goods (crores) Rs	135·69	139·77	153·95	143·81†	145·39†	**156·45†**
Average earnings per freight ton mile Pies	10·2	9·94	10·2	11·2	11·3	**11·1**
Total train miles (million)	179·42	185·11	191·50	191·34	194·81	**201·05**
Gross earnings per train mile Rs	14·68	14·57	15·57	15·0@	14·8@	**15·2**
Working expenses per train mile Rs	11·78	11·79	12·03	12·2@	12·6@	**12·5**
Net earnings per train mile Rs	2·90	2·78	3·54	2·80@	2·19@	**2·62**
Net earnings per mean mile worked Rs	14,973	14,515	19,260	15,677@	12,447@	**15,231**

@ Revised figures.

† The lgures of earnings and expenses do not include the freight charges on Railway Stores, fuel, etc., which were treated as free hauled traffic during 1952-3 and 1953-4. Commencing from 1 April, 1954 the freight charges on this traffic are taken in reduction of operating expenses instead of being credited to earnings.

II.—INDIAN GOVERNMENT RAILWAYS†

Items	1949-50	1950-1‡	1951-2	1952-3	1953-4	**1954-5**
Capital at charge (crores) Rs	727·18	803·82	830·53	833·06	843·33	**872·98**
Route mileage as on 31 March	27,172·10	33,302·84	33,343·34	33,518·98	33,852·15	**34,151·73**
Gross earnings (crores) Rs	238·32	262·57	291·85	270·09§	270·75§	**286·89§**
Total working expenses (crores) Rs	192·89	212·67	225·76	218·16§	230·18§	**234·50§**
Operating ratio (per cent)	80·94	81·00	77·36	80·77	85·02	**81·74**
Number of passengers originating (million)	1,138·47	1,279·36	1,203·73	1,185·66	1,193·58@	**1,234·44**
Passenger miles (million)	36,322·30	41,159·38	39,030·20	36,928·32	37,095·65	**38,316·09**
Earnings from carriage of passengers (crores) Rs	86·04	97·83	109·88	100·38	99·92	**102·62**
Average earnings per passenger mile Pies	4·55	4·56	5·41	5·22	5·17	**5·14**
Freight tons originating (million)	83·44	91·38	96·66	97·12	98·14	**105·81**
Freight ton miles (million)	24,207·86	26,962·51	28,965·87	28,905·78	29,510·40@	**32,099·75**
Earnings from carriage of goods (crores) Rs	126·67	139·26	153·32	143·19§	144·77§	**155·95§**
Average earnings per freight ton mile Pies	10·0	9·90	10·1	11·1	11·3	**11·1**
Total train miles (million)	161·27	182·01	188·92	188·54	191·95	**198·62**
Gross earnings per train mile Rs	14·78	14·67	15·67	15·1@	14·9@	**15·2**
Working expenses per train mile Rs	11·96	11·86	12·11	12·3@	12·7@	**12.6**
Net earnings per train mile Rs	2·82	2·80	3·56	2·83	2·20@	**2·64**
Net earnings per mean mile worked Rs	16,618	14,748	19,562	15,919@	12,578	**15,415**

* Attention is drawn to the fact that the figures quoted in the two tables appearing on this page differ in certain cases from the figures presented in the Report. For an explanation of these differences, see paragraph 5 of the Introductory Note.

@ Revised figures.

† Include statistics of lines worked by Indian Government Railways but exclude Indian Government portions worked during 1949-50 by the Nizam's State and Saurashtra Railways.

‡ Include figures for Bikaner State, Jodhpur, Mysore State, Nizam's State, Saurashtra, Jaipur State, Rajasthan, Dholpur State, Scindia State and Cutch State Railways, which have been taken over by the Central Government as a result of the Federal Financial Integration from 1 April, 1950.

§ The figures of earnings and expenses do not include the freight charges on Railway Stores, fuel, etc., which were treated as free hauled traffic during 1952-3 and 1953-4. Commencing from 1 April, 1954 the freight charges on this traffic are taken in reduction of operating expenses instead of being credited to earnings.

INTRODUCTORY NOTE

1. The Railway Board's Annual Report on Indian Railways relates to the financial year, *i.e.,* from 1 April of one year to 31 March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working, such as general administration, financial results, improvements in and additions to, rolling-stock, commercial and operating methods, recruiting, training and welfare of staff, and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and all other aspects of railway working.

2. The changes introduced in financial accounts of Government Railways with effect from 1 April, 1952 referred to in the previous two years' reports were subjected to further review and it was decided to reintroduce apportionment of earnings in respect of inter-railway traffic and adjustment of all but minor inter-railway transactions with effect from 1 April, 1954, as a result of which financial statistics could be presented again in a manner so as to represent the working of each individual system as was done prior to 1 April 1952. One notable modification, however, was the adoption of the procedure whereby the freight charges on the carriage of railway stores and fuel would be reflected in the accounts of the spending departments but instead of being credited to earnings would be taken in reduction of operating expenses. But for the purpose of working out the derivative statistical results such as earnings and expenses per train mile, per vehicle/wagon mile or per ton mile, etc., these freight charges are included as earnings and the corresponding 'deduct' entry in the working expenses ignored.

3. For statistical purposes, Indian Railways are classified as follows with effect from 1 April, 1952:

(i) Government Railways, and

(ii) Non-Government Railways.

The details of the railways falling under each category are shown in Appendix D of this volume.

4. For the information of those not conversant with the value of Indian currency and the units thereof, the following details are given :—

(*a*) One *lakh* equals one hundred thousand;

(*b*) One *crore* equals one hundred lakhs or ten millions;

(*c*) One *anna* equals 1/16th of a rupee;

(*d*) One *pie* equals 1/12 of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

5. Financial statistics shown under principal statistics of railway operation and in the following chapters differ according to the inclusion or exclusion of certain items. In the principal statistics financial figures include the earnings from the Marmugoa Harbour and exclude suspense.

In Chapter II, dealing with financial results of Indian Railways, reference is made to gross traffic receipts, etc. "Gross traffic receipts" include while "Gross earnings" exclude "suspense".

Goods earnings include earnings from demurrage, wharfage, etc., while earnings from carriage of goods referred to under the principal statistics of railway operation exclude these items.

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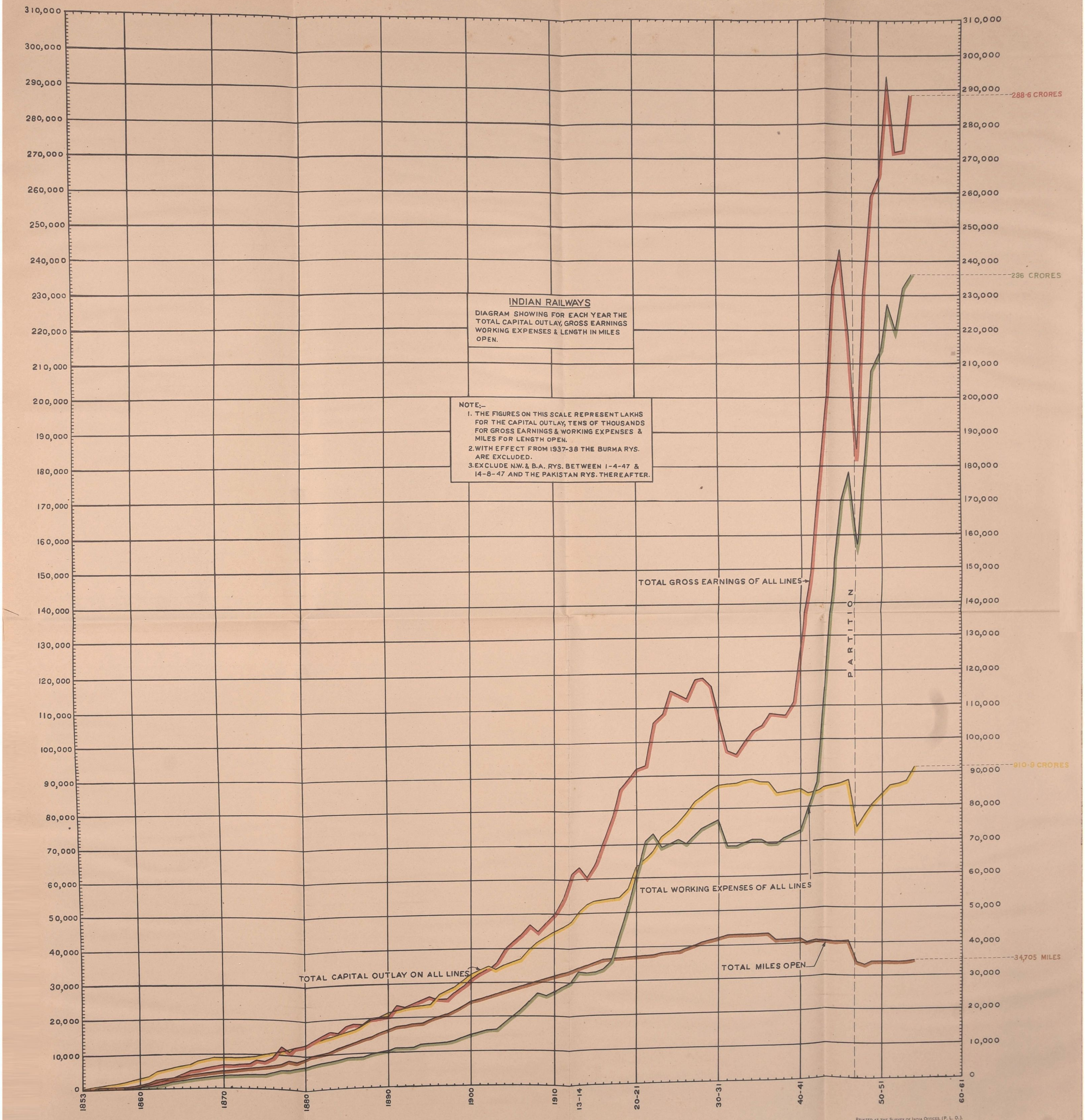

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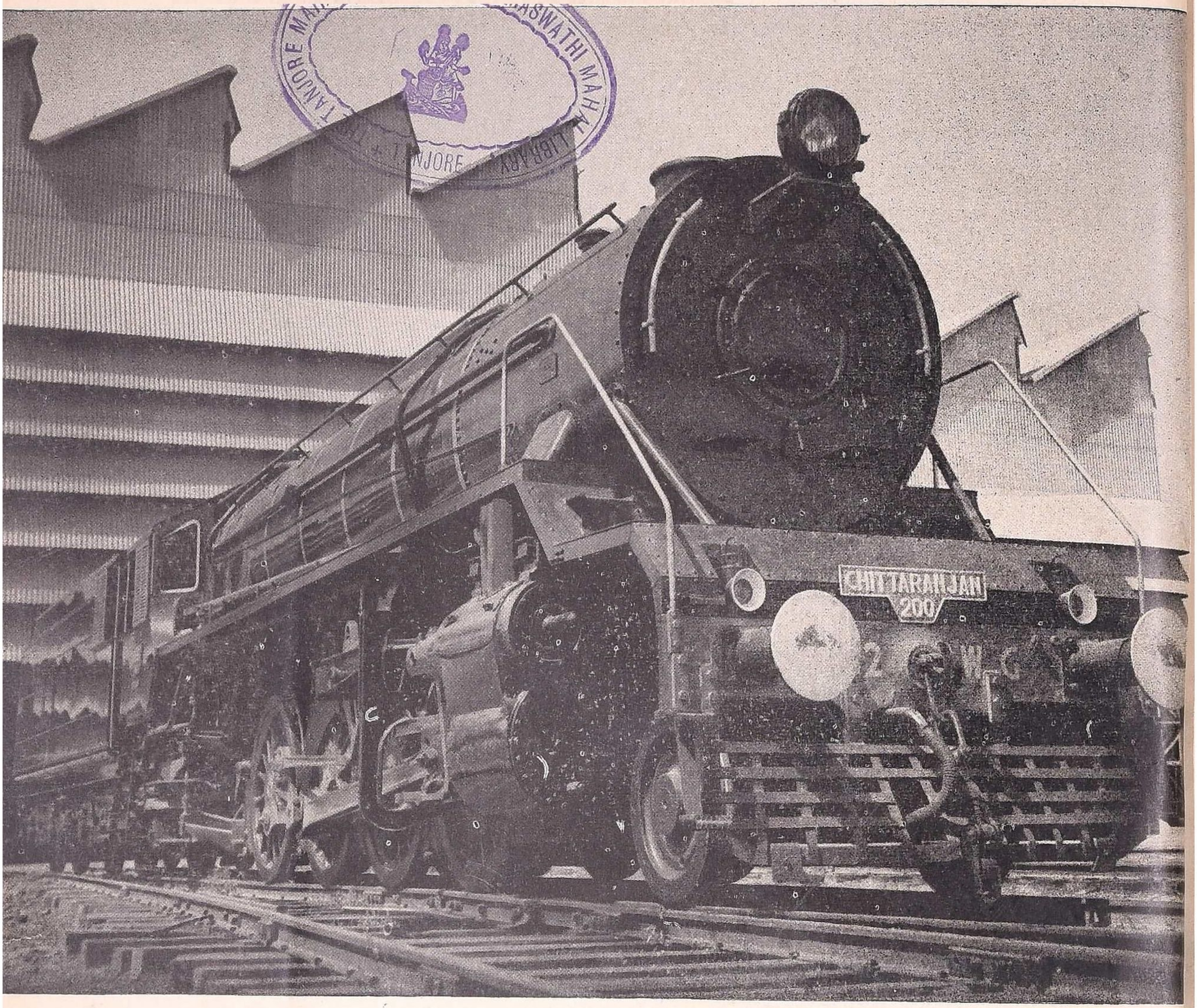

"CHITTARANJAN 200", 5 FEBRUARY 1955.

Total weight of Engine in working order	101·85 tons	
Total weight of Tender in working order	71·80 tons	
Length of Engine	48 ft.	over buffers.
Length of Tender	38 ft.	
Coal capacity	18 tons.	
Water capacity	5000 gallons.	
Grate area	46 sq. ft.	
Total heating surface	2920 sq. ft.	
Nominal tractive effort	39,000 lbs.	
Boiler pressure	210 lbs. per sq. inch.	

CHAPTER I

GENERAL

1. General features of the year.—Railway earnings during 1954-5 recorded a substantial increase as compared with the previous years. In fact, if allowance is made for the freight charges on carriage of railway stores, fuel, etc., which did not enter into financial accounts with effect from 1 April 1952, the gross earnings for 1954-5 would constitute the highest level of earnings so far attained. There are other features of interest relating to traffic and transportation representing significant advances on the performance of previous years.

The volume of traffic is governed by the general economic situation in the country which determines the level of earnings during the year. The economic conditions during the year indicated a general improvement over the previous year. The expenditure under the Five Year Plan sustained confidence in the future of the country's economy. A satisfactory agricultural season on the whole contributed to the general upward economic trends. The rise in the industrial production is spread over several industries in both the public and private sectors. All major industries showed an advance while the newer industries also made some headway. The average index of production in the aggregate reached in 1954 a new record level of 146 as against 135 in the previous year. Increases were recorded under steel, non-ferrous metals and coal production. Cement set up a new record at 4·4 million tons. Impressive increases were discernible in the engineering and chemical industries. The output of cotton cloth during 1954 exceeded the plan target of 4,700 million yards and constituted the highest record for the industry. Exceptions to the general trend of increase were under sugar, salt, matches and woollen manufactures. In the field of agricultural production, increase under cash crops was a special feature. Turning to international trade, there was an increase in both volume and value of exports and imports as well as re-exports. The progressive increase in electrical energy generated during recent years was maintained during 1954. These increases in the field of domestic production and international trade have been largely responsible for improving the level of freight traffic and earnings to a figure higher than any touched since 1947-8. Another gratifying feature of the year under review was maintenance of satisfactory labour-management relations in industrial undertakings.

These factors in the general economic situation in the country are reflected in the performance and financial results of the Indian Railways. Freight tonnage, ton miles and earnings were sizeably higher than any of the figures touched since 1947-8. The number of passengers originating and passenger mileage also recorded further improvement over the previous two years. On the operational side railways have continued their efforts to achieve greater efficiency and consequently enhanced capacity to handle additional traffic resulting in the operation of increased train mileage. Although there have been set-backs under certain factors of operation, it is gratifying to note that past records since 1938-9 have been broken under gross and net tonnage per goods train.

2. General Review of working.—Gross earnings of all railways for the year 1954-5 including those in which Government of India have no financial interest, amounted to Rs. 288·59 crores as against Rs. 272·81 crores for the year 1953-4. The earnings from passengers carried increased by Rs. 239 lakhs or 2·36 per cent and those from goods by Rs. 11·06 crores or 7·61 per cent in 1954-5.

The gross traffic receipts of Government railways amounted to Rs. 286·78 crores. After meeting all charges, including depreciation amounting to Rs. 30·37 crores, but excluding interest charges, the net revenue on the results of working for the year amounted to Rs. 44·06 crores. In accordance with the terms of the Railway Convention, the amount of Rs. 34·96 crores was paid

as representing the dividend at 4 per cent on the capital invested out of general revenues in the railway undertaking, excepting the strategic lines, leaving a balance of Rs. 9·10 crores which was allocated to Development Fund.

Certain important statistics relating to the traffic handled during 1954-5 as compared with 1953-4 for all railways are given below:

PRINCIPAL STATISTICS OF WORKING OF ALL RAILWAYS

Items		1953-4	1954-5	Percentage increase (+) or decrease (—) over 1953-4
Number of passengers originating	(million)	1,220·4	**1,259·2**	+3·18
Passenger miles	(million)	37,548·6	**38,649·3**	+2·93
Earnings from passengers	(crores) Rs	101·35	**103·74**	+2·36
Average amount earned per passenger per mile	(Pies)	5·18	**5·15**	—0·58
Average miles a passenger was carried	(Miles)	30·8	**30·7**	—0·32
Freight tons originating	(million)	99·4	**107·0**	+7·67
(a) Revenue-earning traffic	(million)	76·8	**84·8**	+10·4
(b) Non-revenue traffic	(million)	22·6	**22·2**	—1·77
Net ton miles	(million)	29,568*	**32,136**	+8·69
(a) Revenue-earning traffic	(million)	24,677	**27,019**	+9·49
(b) Non-revenue traffic	(million)	4,891*	**5,117**	+4·62
Earnings from revenue-earning tonnage	(crores) Rs	145·39	**156·45**	+7·61
Average amount earned per revenue-earning ton per mile	(Pies)	11·3	**11·1**	—1·77
Average miles a ton of goods was carried	(Miles)	297·6*	**300·4**	+0·94
(a) Revenue-earning traffic	(Miles)	321·4	**318·8**	—0·81
(b) Non-revenue traffic	(Miles)	216·6*	**230·1**	+6·23

* Revised figures.

The comparative figures indicate that the volume of traffic moved under both passenger and goods during 1954-5 was larger than in 1953-4. Passenger miles during the year stood at 2·93 per cent higher than in the previous year while the net ton miles increased by 8·69 per cent. The average lead of passengers declined from 30·8 miles in 1953-4 to 30·7 miles in 1954-5 while that of goods increased from 297·6 in 1953-4 to 300·4 in 1954-5.

There has been an increase in the number of passengers both on suburban and non-suburban sections, and under all classes except for a slight decrease under the Inter class. The decrease in the number in the First class, consequent on its abolition on the main line, appears to have been obscured by the increase in numbers over suburban sections. The passenger miles also increased under all classes except the First.

The position on the Government Railways is substantially the same. The number of passengers carried and passenger miles increased from 1,238 to 1,275 million and from 37,096 to 38,316 million respectively. The volume of passenger traffic expressed in terms of passenger miles recorded increases under all classes except the First class which showed a decrease of 19 per cent. The shift in passenger traffic towards lower class travel from upper classes noticed last year appears to have been reversed to some extent. This is reflected in the relative volume of traffic in the Third class (ordinary), that is, passengers travelling by "Other than mail" trains which accounted for 72·3 per cent of the total passenger miles in 1954-5 against 73·3 per cent of the total passenger miles in 1953-4.

The total volume of goods traffic inclusive of non-revenue traffic on Government Railways during the year stated in terms of net ton miles

recorded an increase of 8·77 per cent over the preceding year. The increase is to be seen both in revenue and non-revenue traffic. The analysis of the movement during the year as compared with the previous year shows the composition of goods traffic as follows:

GOVERNMENT RAILWAYS—COMPOSITION OF GOODS TRAFFIC IN TERMS OF TON MILES

	1953-4	1954-5
	Percentage	Percentage
Revenue-earning traffic	83·43	**84·06**
Coal for the public and non-Government Railways	24·07	23·65
Grains	9·44	9·09
Oil seeds	1·62	**1·66**
Other commodities	48·30	**49·66**
Non-revenue traffic	16·57	**15·94**
Railway coal	14·32	13·88
Railway stores and materials	2·25	2·06

As compared with 1953-4, the composition of goods traffic showed decreases under coal for the public and non-Government Railways, grains and non-revenue traffic.

Turning to the operating aspect, the Government Railways operated during the year 6·14 million more train miles or 3·33 per cent more over the figure for 1953-4.

The passenger train miles increased by 2·46 per cent. The punctuality of the passenger trains slightly deteriorated on both gauges. The percentage declined from 80·32 and 81·62 in 1953-4 to 79·88 and 77·79 in 1954-5 on the broad and metre gauges respectively. The decrease is mainly due to the increase in the density of traffic. Goods train mileage totalled 77·12 million representing an increase of 4·63 per cent over the previous year. The average freight load hauled by each train has increased by 18 tons from 482 in 1953-4 to 500 in 1954-5 on the broad gauge and on the metre gauge showed a further improvement of six tons from 216 in 1953-4 to 222 in 1954-5.

The number of wagons loaded on the broad gauge during 1954-5 was 4,568,058, an increase of 288,149 wagons or 6·73 per cent over the loadings during the previous year. On the metre gauge the number loaded was 2,632,078 which was 109,904 wagons more or 4·36 per cent more than the previous year. The mileage performed daily on an average per wagon also recorded an increase from 40·1 to 43·3 miles in 1954-5 on broad gauge and on the metre gauge the average of 28·4 miles remained the same as was in the previous year. As compared with 1953-4 the net ton miles per wagon day also recorded a similar increase from 441 to 483 on the broad gauge while on the metre gauge it maintained the same average as for the previous year.

The average number of engines in use daily during 1954-5 rose by 3·5 per cent on the broad gauge and 1·90 per cent on the metre gauge as compared with 1953-4. The percentage of engines under or awaiting repairs declined from 18·0 to 17·3 on the broad gauge and from 18·5 to 16·3 on the metre gauge during 1954-5.

Net ton miles per locomotive day on the line and in use showed an increase on both the gauges. Engine user in terms of engine miles per day per engine on line (*i.e.*, inclusive of the time under repairs, etc.) registered further improvement on the broad gauge from 83 miles in 1953-4 to 85 miles in 1954-5 and on the metre gauge from 74 miles in 1953-4 to 76 miles in 1954-5.

3. Five Year Plan.—The implementation of the First Five Year Plan in the railway sector during the year under review has proceeded satisfactorily. It is anticipated that, provided the schedule for deliveries of stock on order from abroad is maintained, the overall allotment of Rs. 400 crores for the Plan

Period will not only be fully used up, but even exceeded by 18·14 crores. The attached table gives a brief picture of railway expenditure in the Plan Period.

DETAILS OF RAILWAY EXPENDITURE IN THE PLAN PERIOD 1951-2 TO 1955-6

In Crores of Rupees

Categories of expenditure	Total	Percentage	1951-2	1952-3	1953-4	1954-5	1955-6 (Budget)
Rolling-stock and machinery	246·58	59·7	34·36	33·23	40·37	58·69	79·93
Track & bridges	62·59	14·4	10·72	13·96	10·93	13·93	13·05
Other structural and engineering works, collieries and ports	48·28	12·3	6·84	7·34	8·17	10·77	15·16
Labour welfare, staff quarters and other welfare works	20·08	5·0	3·74	3·14	4·12	4·55	4·53
Restoration of dismantled lines and new lines including electrification of track and major bridges	31·85	7·5	7·26	3·71	4·01	7·49	9·38
Passenger amenities	12·84	3·1	2·45	2·34	2·47	3·03	2·55
Miscellaneous items	—4·08	—2·0	5·49	—3·54	—5·86	—2·25	2·08
TOTAL	418·14	100	70·86	60·18	64·21	96·21	126·68

4. **Efficiency Bureau.**—A brief reference was made in the last report about the setting up of the Efficiency Bureau in the Railway Board for undertaking investigations of specific problems of railway working. During the year, the Bureau completed a number of investigations. A brief indication of the nature of the main investigations is given in the following paragraphs :

The Bureau made a general survey of the problem of break-of-gauge transhipments with special reference to the facilities available and the requirements for a reasonably free movement of traffic. A sample but detailed Time study made by the Bureau brought out the major causes of detention to goods and wagons and for short fall in the throughput. The Bureau made recommendations for fixing targets of detention to goods and wagons and for instituting a machinery for measuring performance against such targets. Specific suggestions for improving the working of the important transhipment points were also made to the Railways.

Speed of goods trains was the subject of another investigation in which the Bureau attempted to bring out the dependency of speed on each of the major variables such as tractive effort, load, density, capacity and the level of utilization of capacity, which are usually outside the scope of day-to-day operation. A technique for measurement of efficiency allowing for the major determinants has been developed, thus making it possible to judge the standard of operation from year to year. The Bureau made a general survey of trends of speed for the last thirty years and detailed analysis of the same on different railways during the last six years. A sample survey of goods train operation by the Bureau on selected sections brought out the major causal factors affecting the standard of efficiency. The Bureau focussed attention on the adverse features of operation and made suggestions for improvement.

In an attempt to assess the workload of railways the Bureau evolved a technique for determining the departmental and overall workload. The comparative workload indices on different Government Railway systems were compiled and examined. The internal reorganization of the Headquarters set up of certain railways was also studied.

In connection with the estimate of the impact of the Second Five Year Plan on rail transport, the Bureau examined various estimates of additional goods traffic on railways during the course of the Second Five Year Plan and the extent to which capacity on the main routes will have to be developed. Certain proposals for new lines calculated to relieve stress on the existing routes were submitted.

The Efficiency Bureau endeavoured to evolve a method of measurement of efficiency of wagon utilization. Investigations in this connection are still in progress.

Rationalizing the existing marshalling orders on all-India basis and simultaneous examination of schemes for remodelling yards.—With a view to ascertaining the scope for long distance through marshalling on an all-India basis, the main channels of traffic movement were examined. The movements over the Western, Central, North-Eastern and Eastern Railways were analyzed and *ad interim* reports submitted.

5. Acquisition of Private Railways.—During the year under review, no private Railway was taken over by Government.

6. Railways and the Legislature.—The Railway Budget for 1955-6 was presented to both Houses of Parliament on 22 February 1955. The general discussion on the Budget took place on 28 February and 1 March 1955 in the Rajya Sabha and on 2 and 3 March 1955 in the Lok Sabha. The discussion covered a variety of subjects. The more important of these related to :

(*a*) labour relations ;
(*b*) working of Staff Selection Boards ;
(*c*) introduction of departmental catering ;
(*d*) appropriation to the Depreciation Reserve Fund ;
(*e*) changes in fares and freights ;
(*f*) restoration of dismantled lines ;
(*g*) regrouping of railways ;
(*h*) the paucity of wagons and inadequate progress in the provision of rail transport facilities ;
(*i*) increase in the operating ratio ;
(*j*) co-ordination of various modes of transport in the country ;
(*k*) introduction of concessional rates for *Melas*, etc.;
(*l*) running of fast trains ;
(*m*) amenities to Third class passengers ;
(*n*) accidents on railways ;
(*o*) overcrowding in trains ;
(*p*) inadequate amenities in staff quarters and housing conditions on the Eastern Railway ;
(*q*) construction of new lines ;
(*r*) pilferage ;
(*s*) corruption and bribery ; and
(*t*) development expenditure during the First Five Year Plan.

Notice of 396 cut motions was received to discuss the general policy. These covered a large ground, namely, the policy of the Railway Board with regard to the recognition of trade unions, new railway surveys and constructions for the economic development of the country, economy in working expenses, disposal of representations on staff matters, discipline and appeal rules, increase in fares and freight rates, taking over of private-owned light railways, passenger amenities, reinstatement of Pakistan-opted employees, overcrowding in the *Janata* express trains and other long distance trains, the effects of regrouping on the working of Railways, the inclusion of loco-sheds in the scope of the Factories Act, compensation for injuries, deaths in accidents to passengers and railway servants, medical facilities, etc., for railwaymen, the restoration of dismantled lines and the conversion of narrow

gauge line into broad gauge, arrangements for cleaning of trains and the progress of work at the Chittaranjan Locomotive Works.

122 cut motions were moved but after discussion all were negatived.

Out of a total number of 11,651 questions asked in both the Houses of Parliament during 1954-5, 1,372 or about 12 per cent related to the Ministry of Railways.

The questions covered a wide range of topics, such as construction of new lines, import of rolling-stock, staff matters, railway accidents, opening of new stations, catering and passenger amenities.

7. National Railway Users' Consultative Council.—During the year the National Railway Users' Consultative Council held two meetings, the first being on the 19 and 20 July 1954 and the second on 11 and 12 February 1955. Important questions, such as the general rail-transport position, passenger amenities, safety of passengers, future of narrow gauge railways, increased output in railway workshops, improved signalling arrangements, recent improvements in travel facilities, consideration of the recommendations of the Catering Committee, present position in respect of compensation claims, and rationalization of the rules in respect of wharfage and demurrage charges, were discussed.

One of the important decisions taken during the meeting held in February 1955, was the endorsement of the policy of extension of departmental catering, as recommended in the Report of the Committee on Catering.

8. Zonal and Regional/Divisional Railway Users' Consultative Committees.—During 1954-5, eighty-five meetings of the Zonal and Regional Railway Users' Consultative Committees were held on all Railways and the Committees continued to render useful assistance to railway administrations in dealing with local matters affecting the interests of all railway users.

9. Amenities to Passengers.—While the improvements effected in this respect during the year are dealt with in detail in Chapter VIII, some of the more important measures are briefly referred to below:

In order to progress the provision of amenities at stations and on trains in a co-ordinated and planned basis under adequate supervision and direction, a full-time officer of the Junior Administrative Grade was appointed on each railway with the designation of Deputy General Manager (Amenities). The officer is required to tour extensively on the railway to examine the existing facilities and amenities and to programme and progress the provision of the additional facilities which are required.

Distinctions in the availability of certain amenities to different classes of passengers were abolished. Retiring rooms have been made available to all classes of passengers, and similarly, the use of dining and restaurant cars has been allowed to the Inter (now re-classified the Second) and Third class passengers during the meal hours. Separate exits and entrances at stations for different classes, where in existence, have been abolished.

Sleeping accommodation was provided in Third class on three pairs of broad gauge and two pairs of metre gauge long-distance trains on payment of a surcharge of Rs. 3 per passenger per night.

A conspicuous feature of the arrangements for the supply of drinking water to passengers was the progressive increase in the number of stations where electrically-cooled water was made available, *i.e.*, from 115 in 1953-4 to 158 during the year.

The number of passenger train miles increased from 111 million in 1953-4 to 114 million in 1954-5.

4,418 fans in third class and 663 in second class (former Inter) were installed during the year.

Government accepted most of the recommendations of the Committee appointed to study travel conditions and amenities for passengers on the ex-Assam Railway, and these recommendations are being implemented on a programmed basis.

10. Staff.—Certain developments relating to staff during the year under review are mentioned below:

The relations between the Railway Administrations and Labour continued to be cordial during the year.

The permanent negotiating machinery functioned satisfactorily during the year.

Forty-one promotions were made during the year from Class II and Class III to Superior Railway Services against existing vacancies. Eighty-two appointments were made to the Superior Railway Services by direct recruitment during the year.

During the year the Railways continued to maintain 24 Training Schools including one each for the Chittaranjan Locomotive Works and the Integral Coach Factory.

154 Schools, catering to primary and secondary education of Railway children, are run by the Railways.

A beginning has been made for the provision of annexes and special wards in certain selected existing Tuberculosis Sanatoria in the country for the treatment of railway employees and their families suffering from tuberculosis by reserving a ward of 24 beds in the K. S. Ray T. B. Hospital, Jadavpur. Planned expansion of medical facilities available on Railways was also under consideration.

The working of Co-operative Credit Societies and Banks on the Railways was on the whole satisfactory during the year. Consumer Co-operative Societies have been slowly gaining popularity.

Consequent upon the decontrol of cereals, the monetary value of grain-shop concessions was less attractive to staff. It was, therefore, decided to grant a lumpsum compensatory bonus to railway employees then availing of grainshop concessions in lieu of these concessions thereby also giving them an opportunity to come on to the higher Central Pay Commission rates of dearness allowance.

The Railway Service Commissions with headquarters at Calcutta, Bombay, Madras and Allahabad continued to conduct recruitment of Class III staff for the Railways.

11. Progress of Hindi.—As stated in the last year's report, a Hindi Section has been functioning in the Railway Board's Office since September 1952. In addition to the Minister's Budget Speech, the Budget Statement and the pamphlet 'Towards Better Conditions of Travel', the Explanatory Memorandum on Railways was also presented in Hindi along with Budget documents for the year 1954-5. Further progress was also made in regard to the preparation of Railway terminology in Hindi, and a list of traffic terms under letters 'A' to 'H' was published and circulated to State Governments, Railway Administrations and certain public bodies for their comments and suggestions. The work on the preparation of the remaining traffic terms also received attention in consultation with the Ministry of Education.

The Hindi Officer in the Railway Board was deputed to go on the line to help remove inaccuracies in Hindi notices, name-boards, etc., displayed on railway premises and on passenger coaches. Some of the Railways have set up the necessary machinery for replying to Hindi letters in Hindi in their Headquarters offices. Besides the publication of Zonal Railway Time Tables in Hindi, the first All-India Hindi Time Table was published in October, 1954. It was also decided that the agenda and minutes of Zonal and Regional Railway Users' Consultative Committees in Hindi-speaking areas should be prepared in Hindi and English side by side.

12. Security measures on Railways.—Measures to increase the efficiency of the Watch and Ward organization (now Railway Security Force) continued

to be taken on Railways during the year under review. The salient features of the steps taken were:

Re-organization of the Watch and Ward Department into an effective and disciplined organization known as Railway Security Force under a Chief Security Officer on each railway, who is an officer of the rank of Deputy Inspector General of Police loaned from the State Government and who consequently maintains effective high level liaison with the State Police.

Increase in the number of supervisory staff so that effective supervision can be exercised.

Defining the duties and responsibilities of the rank and file of the Force so that an effective measure of security can be enforced to the State Government and who consequently maintains effective high level liaison with the State Police.

Provision of adequate training facilities to members of the Force.

Laying down a separate code of conduct and discipline to ensure that there is no laxity among members of the Force in performing their duties.

The strength of the Railway Protection Police in Assam, Bihar, Orissa, Uttar Pradesh and West Bengal has been reviewed and slightly reduced from 1 April 1955 after consultation with those State Governments.

13. Publicity and Public Relations.—The Indian Railways during the year stepped up their publicity and public relations work to disseminate factual information about their various activities. This was done through press conferences, press releases, pamphlets, informal contacts with leading journalists, etc.

In order to give the press a first-hand idea of the part played by Indian Railways in the country's economy and of the progress made by them in different directions, the Railway Board organized a tour for a party of 11 leading journalists, representing the news agencies and English and Indian language newspapers in January and February 1955. The party travelled about 6,000 miles by rail and visited railway projects, workshops, marshalling yards, staff training centres, housing colonies, and stations where passenger amenity works had been carried out. On their return to Delhi, the journalists published in their newspapers a series of special articles recording their impressions on the various aspects of railway work.

Railways were asked during the year to launch a social education campaign with the object of educating the travelling public in regard to their behaviour on railway premises and how best they could utilize the various amenities provided by the Railways.

As a result of these activities, there is now a growing appreciation of the achievements and the problems faced by the Railways.

14. Complaints.—The complaints organizations on the railways for keeping a watch on the prompt disposal of complaints from the public continued to function satisfactorily. During the year 22,922 complaints were received and dealt with by the Railway Administrations. The Railway Board's office dealt with about 1,380 complaints. These figures represent a substantial reduction in the numbers during the previous year, which were 29,103 and 1,450 respectively and indicate a general improvement.

All complaints received were investigated, and in cases where they were substantiated, suitable disciplinary action was taken against the staff concerned.

The complaints received from public were promptly acknowledged, enquiries were instituted and the results communicated to the complaints without delay. The complaints organizations on Railways were placed under the control of Deputy General Manager (Amenities). The Deputy General Managers were also required to ensure that complaint books were properly maintained at stations and that the complaints promptly brought to the notice of the executive officers concerned. They were further asked

to take particular note of the complaints of the public with regard to passenger amenities appearing in newspapers and to take suitable action to remove the causes for such complaints.

15. Floods and cyclones.—Considerable damage was done to railway property during the year as a result of heavy rains, floods and cyclones. Details of the damages caused by such natural causes are shown in paragraph 79 of Chapter IV of this report.

The total cost of damage on all the Railways on account of floods and cyclones was approximately Rs. 91·7 lakhs.

16. Railway Rates Tribunal.—At the beginning of the year the Tribunal had on hand four complaints from the public pending disposal. In the year four new complaints from members of the public regarding freight rates were filed. Out of these eight complaints six were disposed of and one was allowed to be withdrawn. Thus at the end of the year there was only one complaint pending disposal before the Tribunal which related to increased freight rates for traffic in sugarcane charged over the Shahdara-Saharanpur Light Railway with effect from 1 October 1953.

During the year, the following applications and appeals were also filed before the Tribunal:

(1) Application from the Central Government in regard to enhancement of the classification for Safflower Seed.

(2) Miscellaneous Application for transmission of the Tribunal's order in Complaint No. 2 of 1952 for execution.

(3) Appeal against the judgment and order of the Tribunal in Complaint No. 3 of 1953.

The application from the Central Government and the appeal against judgment and order in Complaint No. 3 of 1953 were disposed of leaving the Miscellaneous application on hand for disposal at the end of the year.

Besides the formal cases referred to above, four letters concerning complaints of specific grievances were also received by the Tribunal during the year. The parties concerned were advised that the Tribunal could take cognizance only of representations that were presented in accordance with the prescribed Rules of Procedure and in accordance with the Indian Railways Act, 1890.

In accordance with the revised disciplinary procedure introduced with effect from 1 May 1952, mention of which was made in the last years' report, seven references were received during the year from the General Managers of Central, Western, Southern and Northern Railways. The Tribunal, after going through the records, tendered the necessary advice to the respective General Managers.

17. Implementation of decisions for division of rolling-stock between India and Pakistan.—A meeting of the Indo-Pakistan Stores Sub-Committee (Railway) was held at New Delhi on 21 to 27 December 1954 to settle the points of disagreement and to decide other outstanding issues regarding the division and exchange of rolling-stock of the old B. A. and N. W. Railways. It was decided that assets not so far divided be allotted to the country in which they are located at present and in the case of assets already divided but not received by the country to which allocated or which after taking over, moved to the other country and are at present held up there, the division be treated as having been revised retrospectively whereby all such held-up assets be finally allotted to the country of their present location. It was further agreed that the above decision will not affect the ownership in respect of—

(*a*) general service wagons moving in normal interchange between the two countries ;

(*b*) special type of goods stock, *viz.*, tank wagons, etc., and departmental wagons and brake vans, interchanged subsequent to 1 July 1954 ; and

(*c*) coaching stock moving in normal interchange since 1 July 1954.

The final Division Lists of rolling-stock of the old B. A. and N. W. Railways as per above decision, are under preparation by the railways.

18. Railway Fuel Economy Enquiry Committee.—In the report for the year 1953-4 important recommendations of the Railway Fuel Economy Enquiry Committee and action taken thereon were briefly reviewed. Further progress made on the implementation of those recommendations during the year under review may be seen in paragraph No. 62, Chapter III, Part A—Operation.

CHAPTER II

FINANCIAL RESULTS

A. AGRICULTURAL CONDITIONS AND FOREIGN TRADE DURING 1954-5

19. Monsoon conditions and agricultural situation in India during 1954-5.—The economy of India which is pre-dominantly agricultural in character is profoundly affected by monsoon conditions and the financial results of Railways are to a large extent influenced by the agricultural situation. The principal features of the year are briefly referred to in the following paragraphs:

The south-west monsoon in 1954 was, if not better than 1953, favourable for agricultural operations. The season commenced in right time. Generally speaking the rains during June, July and September were timely and well distributed, while they were erratic in August. Excessive rains in July and August caused riverine floods in Assam, North Bihar, northern districts of West Bengal and parts of eastern Uttar Pradesh while Orissa, South Bihar, western Uttar Pradesh and adjoining areas upto Rajasthan suffered from deficient rainfall.

The north-east monsoon rain was markedly deficient in the South although good rainfall was received in Tamilnad and coastal Andhra Desh during December.

The south-west monsoon of 1954 was thus favourable for the sowing as well as for the growth of *Kharif* crops in the country except in the flood affected parts of Assam, North Bihar and West Bengal. The season was also free from the attacks of pests and crop diseases. In parts of Bombay, Rajasthan, Punjab, Pepsu, Uttar Pradesh and Delhi, locust invasion was reported, but damage to crops on this account was, however, negligible. The north-east monsoon though weaker than the last season had been very favourable for agricultural crops in the State. The yield per acre in 1954-5 was generally higher than the average yield per acre obtained for the preceding five years. The *Kharif* crops in 1954-5 generally fared well in different parts of the country under favourable weather conditions both at the sowing and growing time. The cereal production, however, declined by 3·1 million tons in 1954-5 over 1953-4 level but it was still 6·5 million tons more than that in 1949-50. In the case of sugar-cane, oil seeds, cotton and jute production during 1954-5 showed considerable increase over the preceding year. In the case of cotton, the production during the year was an all time record.

Rabi crops during the season also fared well under favourable monsoon conditions. Both area and production of wheat during the season touched record levels. But cold, frost and hailstorms during January, however, affected slightly the standing crops in the parts of Madhya Pradesh and Uttar Pradesh. Crops diseases and pest attacks were reported from parts of Madhya Pradesh, Bombay and Saurashtra, but damage to crops on this account was, however, negligible owing to timely and adequate measures taken by the authorities of the States.

The percentage variations as compared with the previous year, in area and production of principal crops, according to the latest available information for 1954-5 are indicated below:

VARIATION IN ACREAGE AND YIELD OF PRINCIPAL CROPS IN 1954-5

Crop	Percentage increase or decrease over 1953-4 Acreage Per cent	Yield Per cent
Rice	−3·4	−12·2
Wheat	2·0	8·5
Maize, millets and barley	−3·6	−7·7
Gram and other pulses	0·5	0·2
Sugarcane	12·4	24·2
Groundnut	16·4	7·0
Castorseed	−7·3	3·7
Sesamum	1·8	7·2
Rape and mustard	2·4	12·5
Linseed	−2·1	3·7
Cotton	6·8	8·4
Jute	6·4	0·8

20. Trade review.—The foreign sea and air borne trade of India increased in the year 1954-5 as compared with the preceding year. This rise is attributable both to an increase in the volume and value of imports and exports as well as re-exports. The following table gives an overall picture of the trade of India in 1954-5 as compared with 1953-4:

(In crores of rupees)

	1953-4	1954-5	Increase in 1954-5 over 1953-4
Imports	5,49·1	6,10·6	+61·5
Re-exports	4·8	5·4	+ 0·6
Exports	5,18·3	5,72·3	+54·0

Value of imports by sea and air.—The total recorded value of imports of foreign merchandise rose by Rs. 62 crores or about 11 per cent from Rs. 5,49 crores in 1953-4 to Rs. 6,11 crores in the year under review. The increase was due mostly to increase in the volume of trade as well as to a slight rise in the prices of imported goods. The increase in imports was attributable mainly to rise in import of edible things, *viz.*, rice not in the husk and sugar contributing Rs. 61 crores, with kerosene, fuel oil, textile machinery, coal tar dyes, drugs and medicines, aluminium, copper and iron, chemicals, vehicles, raw cotton, raw rubber and copra contributing to a further increase of Rs. 41 crores. These increases were partially offset by decrease in imports under some other commodities, notably motor spirit, electrical machinery, wheat, spices and wool and woollens—between them causing a fall of about Rs. 37 crores.

Value of exports by sea and air.—The total recorded value of exports increased by Rs. 54 crores or about 10 per cent from Rs. 5,18 crores in 1953-4 to Rs. 5,72 crores in the year under review. The increase is due to rise in prices as well as in the volume of trade.

The increase in the value of exports is noticed mostly in the case of tea (major increase of Rs. 45 crores) gunny bags, vegetable oil, gums and resins, raw cotton, raw and waste wool and hides and skins undressed—these accounting for Rs. 84 crores of the increase. Decline was, however, noticed under certain items, the more important of which being jute yarns and

manufactures (Rs. 10 crores). Others like fruit and vegetable, spices, tobacco, hides and skins tanned and cotton yarns and manufactures accounted for between them, Rs. 20 crores of the decline.

Value of re-exports by sea and air.—The total recorded value of re-exports including transit trade of countries on the Indian border except Pakistan increased by about Rs. 1 crore or nearly 15 per cent from 4·8 crores in 1953-4 to Rs. 5·5 crores in the year under review. Variations of the re-exports trade in 1954-5 as compared with 1953-4 were noticed mainly under fruit and vegetables, wool raw and yarn, machinery, vehicles and iron and steel.

B. FINANCIAL RESULTS OF INDIAN RAILWAYS (INCLUDING WORKED LINES)

21. Changes in accounting and financial structure of Railways.—With the completion of integration of Indian Railways into a unified financial undertaking, certain changes in the accounting and financial structure of Railways were introduced with effect from the accounts for 1952-3 as a result of which apportionment of earnings accruing from traffic interchanged purely between the Indian Railways as also certain types of inter-railway adjustments were dispensed with.

Later on, a Committee was appointed by the Board to review:

(i) the alterations made in the accounting procedure to see how far the same had achieved any economy or simplification in procedure;

(ii) whether maintenance of accurate accounts by each of the Zonal Railways was desirable or necessary from the point of view of exercising better control over the operation of the Zones and maintenance of accurate statistics; and

(iii) whether maintenance of *pro forma* accounts was enough for a proper maintenance of capital accounts or whether financial adjustment should be made in these cases.

As a result of the recommendations made by the Committee, the following changes in accounting and financial structure of Railways have been given effect to, with the approval of the Comptroller and Auditor General of India from 1 April 1954:

(1) Apportionment of earnings in respect of inter-zonal traffic has been reintroduced for determining the earnings attributable to each Zone. The process has, however, been simplified by apportioning the earnings for each Railway without segregating terminal, transhipment or short distance charges in the case of Goods and Parcels traffic and by apportioning the earnings for each class by each *via* as one item in the case of Passenger traffic.

(2) Inter-railway adjustments are being made in respect of all transactions except the following:

(*a*) Petty adjustments not exceeding Rs. 500 are not required to be made between one railway and another, save those relating to transfer of deposits or recoveries from staff or outsiders and receipts or issues from Stores and Manufacture Suspense.

(*b*) No financial adjustments are required to be carried out between Indian Railways in respect of the following:

(i) Hire and haulage and penalty on Rolling-stock (other than Conference Hire on Goods Wagons);

(ii) Damages and deficiencies in interchanged stock;

(iii) Analytical work done in Laboratories;

(iv) Sale of application forms on behalf of Railway Service Commission;

(v) Publicity and advertisement charges.

(*c*) All other adjustments which had been eliminated prior to 1 April 1952.

(3) Freight charges on the carriage of railway stores are to be reflected in the accounts of the spending departments but instead of being credited to earnings, these are taken in reduction of operating expenses and booked under Abstract 'G'.

(4) For purposes of maintenance of continuity in certain statistics, freight charges on carriage of railway stores are, however, taken into account in the relevant statistical statements. For this purpose zonal railways are required to maintain the information through *pro forma* accounts, which are exchanged between railway systems concerned and exhibited in corresponding statistical statements.

22. Financial results of working.—The gross traffic receipts of Indian Railways including the worked lines for the year 1954-5 amounted to Rs. 286·78 crores as compared with Rs. 274·29 crores in 1953-4 representing an increase of Rs. 12·49 crores.

The ordinary working expenses for the year amounted to Rs. 205·87 crores as against Rs. 201·47 crores in 1953-4, involving an increase of Rs. 4·40 crores. The contribution to the Depreciation Reserve Fund was Rs. 30·37 crores against Rs. 30·36 crores during 1953-4. Out of this amount, the sum of Rs. 30 crores is on account of the Indian Railways capital assets chargeable to their working expenses, while the balance of Rs. 37 lakhs is on account of capital assets of Chittaranjan Locomotive Works by debit to Manufacturing Suspense account. The additional contribution of Rs. 37 lakhs as a charge against capital was necessitated in the interest of accurate costing on commercial principles, and this represents the depreciation charges accruing on account of plant and machinery, etc., at Chittaranjan Locomotive Works as an item of cost of the different jobs undertaken. Payments to worked lines as their share of net earnings amounted to Rs. 22 lakhs as against Rs. 28 lakhs in 1953-4. The operating ratio, that is the ratio of working expenses (excluding suspense but including appropriation to Depreciation Reserve Fund) to gross receipts was 81·77 per cent against 85·06 per cent in 1953-4.

The net expenditure on miscellaneous transactions during the year was Rs. 6·63 crores against Rs. 5·62 crores in 1953-4.

The net revenue for the year was Rs. 44·06 crores against Rs. 36·92 crores in 1953-4.

The dividend paid to the General Revenues during the year was Rs. 34·96 crores as against Rs. 34·36 crores in 1953-4. The surplus for the year amounted to Rs. 9·10 crores as against Rs. 2·56 crores in 1953-4 representing an increase of Rs. 6·54 crores. This was allocated to Development Fund.

The interest on the Depreciation Fund balances credited to the fund during the year under review, amounted to Rs. 3·35 crores. The amount withdrawn during the year for renewals was Rs. 45·82 crores against Rs. 38·02 crores in 1953-4 and the net charge against the fund in 1954-5 was Rs. 12·10 crores against Rs. 4·05 crores in 1953-4. The balance in the Depreciation Reserve Fund at the end of the year, including the provisional balance as on 31 March 1950 of Rs. 8·93 crores of the *ex*-States' Railways, was Rs. 100·69 crores as against Rs. 112·79 crores in 1953-4.

The works expenditure during the year amounted to Rs. 95·76 crores as against Rs. 64·06 crores in 1953-4. Of this, an amount of Rs. 32·25 crores was charged to Capital, Rs. 45·82 crores to Depreciation Reserve Fund, Rs. 12·78 crores to Development Fund and Rs. 4·91 crores to Revenue (Open Line Works Revenue).

23. Traffic receipts.—The total traffic receipts of the Indian Railways, excluding the worked lines amounted to Rs. 286·16 crores. The details are given in the statement below:

EARNINGS AND NET TRAFFIC RECEIPTS OF GOVERNMENT RAILWAYS

(In crores of rupees)

	1952-3	1953-4	1954-5
Passenger earnings	1,00·38	1,00·00	**1,02·62**
Other coaching earnings	18·17	18·01	**19·24**
Goods earnings	1,46·12	1,47·18	**1,58·69**
Sundry earnings	5·12	5·17	**6·01**
Suspense	0·77	3·93	**0·22**
TOTAL	2,70·56	2,74·29	**2,86·78**
Less earnings of worked lines	0·89	0·87	**0·62**
Net traffic receipts	2,69·67	2,73·42	**2,86·16**

The increase under gross receipts during 1954-5 as compared with the last year is mainly under goods earnings, *viz.*, Rs. 11·51 crores. Passenger earnings for 1954-5 also recorded an increase of Rs. 2·62 crores over the preceeding year.

24. Working expenses.—A comparison of ordinary working expenses (excluding suspense) under the various demand heads for the year 1954-5 with those for 1953-4 is given in the following statement.

ANALYSIS OF WORKING EXPENSES, GOVERNMENT RAILWAYS

(In crores of rupees)

Demand Heads	1953-4	1954-5	Increase(+) Decrease(−) over 1953-4
Administration	27·88	**29·57**	+1·69
Repairs and maintenance	68·08	**72·43**	+4·35
Operating staff	43·40	**45·73**	+2·33
Operating (fuel)	23·98	**23·26**	−0·72
Operating other than staff and fuel	13·96	**11·70**	−2·26
Miscellaneous expenses	18·64	**17·38**	−1·26
Labour welfare	4·03	**4·24**	+0·21
TOTAL	1,99·97	**2,04·31**	+4·34

The increase during 1954-5 is mainly due to increase in cost of additional staff appointed to improve efficiency and as leave reserve, grant of annual increments, etc., and maintenance of rolling-stock, periodical overhaul of locomotives and running repairs to locomotives and other rolling-stock.

An analysis of the financial results of working of the Indian Government Railways showing the capital-at-charge, gross receipts, working expenses, net revenue receipts and dividend, etc., for the last three years is given in the following statement:

FINANCIAL RESULTS OF WORKING OF INDIAN GOVERNMENT RAILWAYS

(Figures in thousands of rupees)

	1952-3	1953-4	1954-5
Capital at charge	8,57,37,82	8,69,29,94	**9,01,58,44**
Deduct amount of capital contributed by companies	83,47	83,47	**83,47**
Net Government capital at charge	8,56,54,35	8,68,46,47	**9,00,74,97**
Gross receipts	2,70,55,97	2,74,29,27	**2,86,77,76**
Working expenses including suspense and depreciation reserve fund	2,17,95,88	2,31,47,21	**2,35,87,09**
Payment to worked lines	21,29	28,03	**21,41**
Net traffic receipts	52,38,80	42,54,03	**50,69,26**
Net miscellaneous expenditure	5,20,56	5,62,55	**6,63,12**
Net revenue receipts	47,18,24	36,91,48	**44,06,14**
Percentage of net revenue receipts on capital at charge	5·50	4·25	**4·89**
Charges against net revenue receipts Dividend to general revenues	33,99,47	34,35,77	**34,96,00**
Net Gain or Loss to Government			
Gain	13,18,77	2,55,71	**9,10.14**
Loss	—	—	—

NOTE.—The figures of Capital-at-charge are provisional pending closing of pre-partition accounts and the finalization of the balances of *ex*-States' Railways brought forward on 1 April, 1950.

25. Gain or loss.—The net results of working stated in terms of gain or loss for the three years are given in the following statement:

(In lakhs of rupees)

	1952-3	1953-4	1954-5
Gain	13,19	2,56	9,10
Loss	—	—	—

26. Development Fund.—During the year, the Fund received a credit of Rs. 9·70 crores including interest, while Rs. 12·78 crores were withdrawn from it for meeting expenditure chargeable thereto, giving a net debit of Rs. 3·08 crores to the Fund. The closing balance on 31 March, 1955 was Rs. 17·54 crores.

27. Revision of Railway Separation Convention.—As contemplated in clause (5) of the Convention Resolution of 1949, a Committee representing both the Houses of Parliament was constituted in pursuance of a resolution adopted by the Lok Sabha on 12 May 1954, to review the rate of dividend which is at present payable by the Railway Undertaking to the General Revenues as well as other ancillary matters in connection with the separation of railway from general finances. According to the resolution, twelve members of the Lok Sabha were nominated by the Speaker to the Committee and six members of the Rajya Sabha were associated with it. Except the Minister of Railways and Transport and Minister of Finance, all members were non-official. Shri M. Ananthasayanam Ayyangar, one of the non-official members, was nominated as Chairman of the Committee.

The Committee submitted its report on 30 November 1954. The Lok Sabha and the Rajya Sabha after due consideration of recommendations of the committee adopted resolutions on 16 December 1954 and 21 December 1954 respectively. The text of the resolutions together with the summary of the principal recommendations of the committee is reproduced in Appendix A.

28. Principal Provisions of the convention.—The main recommendations are readily indicated. Firstly, the present annual rate of dividend (namely, 4 per cent) paid to the general revenues on the capital invested should remain unaltered for a further another period of five years commencing from 1 April 1955, subject to certain minor adjustments in the matter of calculation of Capital-at-charge for arriving at the total dividend payable. These minor adjustments are (i) that on the element of over-capitalization of the loan capital, the rate of dividend will be equal to the average rate of interest charged to the commercial departments and (ii) that a moratorium will be granted in respect of the dividend payable on the capital invested on the new lines during the period of construction and up to the end of the fifth year of their opening for traffic. The deferred dividend in respect of this period of moratorium will be calculated at the average rate of interest charged to the commercial departments and this will be paid from the sixth year onwards in addition to the current dividend out of the net income of the new lines. Secondly, the annual contribution to the Depreciation Reserve Fund should be raised from Rs. 30 crores to Rs. 35 crores during the five years commencing with 1955-6 and the scope of expenditure from the Development Fund should be widened to include amenities for all "users of railway transport" instead of "railway passengers" only.

C. GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS

29. Analysis of earnings.—The total earnings of all railways for the year 1954-5 including those in which the Government of India have no financial interest amounted to Rs. 2,88·59 crores of which goods traffic accounted for Rs. 1,56·45 crores or 54·21 per cent, passenger traffic for Rs. 1,03·74 crores or 35·95 per cent and parcels, luggage and other miscellaneous sources of revenue for Rs. 28·40 crores or 9·84 per cent.

30. Traffic and mileage.—The more important figures of traffic on all Indian Railways for the year 1952-3 to 1954-5 are summarized in the table below. The progressive increase in the volume of traffic handled during these years is evident. The apparent decrease on the Non-Government Railways is due to the acquisition of Barsi Light Railway from 1 January 1954.

STATISTICS OF TRAFFIC OF ALL INDIAN RAILWAYS

	Year	Govt. Railways	Non-Govt. Railways	Total all Railways
Route mileage	1952-3	33,518·98	756·00	34,274·98
	1953-4	33,852·15	553·43	34,405·58
	1954-5	**34,151·73**	**553·43**	**34,705·16**
Passengers originating (million)	1952-3	1,186	26	1,212
	1953-4	1,193	27	1,220
	1954-5	**1,234**	**25**	**1,259**
Passenger miles (million)	1952-3	36,928	468	37,396
	1953-4	37,096	453	37,549
	1954-5	**38,316**	**333**	**38,649**
Tons originating (Million)	1952-3	97	1	98
	1953-4	98	1	99
	1954-5	**106**	**1**	**107**
Net ton miles (million)	1952-3	28,906	55	28,961
	1953-4	29,511*	57	29,568*
	1954-5	**32,100**	**36**	**32,136**

* Revised figures.

31. Passenger earnings.—In comparison with 1953-4, passenger earnings on all Indian Railways increased by about Rs. 2·39 crores, an increase of 2·36 per cent, the number of passengers originating increased by about 39 millions, an increase of 3·18 per cent and passenger miles increased by about 1,100 millions, an increase of 2·93 per cent. The increase in the number of passengers is noticed under all classes except the Inter Class.

The earnings by classes of all Indian Railways from passenger traffic for the three years 1952-3 to 1954-5 are summarized in the table below:

PASSENGER EARNINGS BY CLASSES-ALL INDIAN RAILWAYS

(Figures in lakhs of rupees)

Class	1952-3	1953-4	1954-5
Air-conditioned	27	47	59
First	1,99†	1,27†	72†
Second	4,13	4,47	4,75
Inter	5,77	5,53	5,49
Third	89,67	89,61	92,19
TOTAL	1,01,83	1,01,35	1,03,74

† Reflects the effect of the policy of gradual withdrawal of First class accommodation.

The earnings show increases under all classes except First and Inter classes which recorded decreases of 43·5 and 0·85 per cent respectively. The passenger miles, however, recorded drop only under First Class of 19·0 per cent; and the Air-conditioned, Second, Inter and Third showed increases of 26·6, 9·36, 0·46 and 3·01 per cent respectively as compared with the previous year. The drop in the First Class is due to the policy of gradual withdrawal of this type of accommodation on the Indian Railways, reference to which was made in greater detail in Chapter III of the last year's report.

The number of passengers originating and the passenger miles by classes for the three years 1952-3, 1953-4 and 1954-5 are stated below:

VOLUME OF PASSENGER TRAFFIC BY CLASSES—ALL INDIAN RAILWAYS

(Figures in million)

Class	No. of passengers originating.			Passenger miles		
	1952-3*	1953-4	**1954-5**	1952-3*	1953-4	**1954-5**
Air-conditioned	0·031	0·049	**0·065**	17	31	**39**
First	13·8*	12·8*	**13·2***	250*	187*	**151***
Second	4·8	4·3	**4·6**	522	555	**607**
Inter	19·9	18·5	**18·1**	1,218	1,174	**1,179**
Third	1,173·5	1,184·8	**1,223·2**	35,389	35,602	**36,673**
TOTAL	1,212·0	1,220·4	**1,259·2**	37,396	37,549	**38,649**

* Reflects the effect of the policy of gradual withdrawal of First class accommodation.

Detailed figures of number of passengers originating, passenger miles and earnings are given in Summary X and Statements 12 and 36 of Volume II of this report.

32. **Goods earnings.**—During the year 1954-5 the earnings from goods carried amounted to Rs. 1,56·45 crores as against Rs. 1,45·39 crores in 1953-4, an increase of Rs. 11·06 crores or 7·61 per cent as compared with 1953-4.

The total tonnage of goods originating, both revenue-earning and non-revenue traffic increased by about 8 millions or by 7·67 per cent, but as each ton of freight was carried on an average over a distance of 300·4 miles as compared with 297·6 miles during 1953-4, the total ton miles increased by 2,568 millions or 8·69 per cent. The revenue earning-tonnage originating during 1954-5, registered an increase of 7·96 millions in comparison with 1953-4 but as each ton was carried a distance of 318·8 miles as against 321·4 miles during 1953-4, there were about only 2,342 millions more ton miles of the revenue-earning traffic during the year. The increase in goods earnings has been brought about mainly by the rise in goods traffic.

The ton miles for the different commodity groups and the tonnage originating according to the different classes of commodities on the Government Railways during the years 1953-4 and 1954-5 are summarized below:

VOLUME OF GOODS TRAFFIC—GOVERNMENT RAILWAYS

	Ton miles (million)	
	1953-4	**1954-5**
A. Revenue earning traffic—		
Coal	7,105	**7,592**
Grains	2,787	**2,919**
Oil seeds	477	**532**
Other commodities	14,251	**15,940**
Total revenue-earning traffic	24,620	**26,983**
B. Non-revenue traffic—		
Railway coal and materials	4,891†	**5,117**
Total—Revenue-earning and non-revenue traffic	29,511†	**32,100**

	Tons originating (million)	
	1953-4	**1954-5**
A—Revenue-earning traffic—		
I Products of agriculture—		
(a) Foodgrains	14·04	**14·11**
(b) Others	8·31	**8·12**
II Products of animals	5·73	**5·99**
III Products of mines—	0·33	**0·34**
(a) Coal for public and non-Government Railways	35·41	**38·39**
(b) Others (including mineral oils)	20·62	**23·33**
IV Products of forests	14·79	**15·06**
V Manufactures	3·27	**3·50**
VI Miscellaneous (including military traffic)	10·73	**11·73**
Total revenue-earning traffic	11·77	**15·51**
B—Non-revenue traffic (Railway coal and materials)	75·55	**83·58**
	22·59	**22·23**
Total—Revenue-earning and non-revenue traffic	98·14	**105·81**

† Revised figures.

It will be of interest to note that tonnage originating of the non-revenue traffic accounted for 21·0 per cent of the total tonnage during 1954-5 and 23·0 per cent during 1953-4. The average distance travelled by the Railway stores and materials other than coal is, however, much less than the public traffic. So the transport capacity actually absorbed by the Railways for their own domestic requirements in terms of ton miles represented 15·9 per cent in 1954-5 and 16·6 per cent in 1953-4, out of which Railway stores other than coal accounted for only 2·06 per cent and 2·25 per cent in the respective years.

Statement below gives details of earnings from principal commodities carried by Government Railways during 1953-4 and 1954-5. It may be seen from the statement that excepting gram and pulses, wheat, cotton raw and manufactured, salt, manganese ore, petrol, sugar, tea and jute raw, there have been in respect of other commodities more receipts from traffic carried during 1954-5 than during 1953-4:

RECEIPTS FROM DIFFERENT COMMODITIES (GOVERNMENT RAILWAYS)

(In lakhs of rupees)

	1953-4	1954-5
Coal, coke and patent fuel for the public	20,86	21,96
Rice and paddy	4,31	5,96
Gram and pulses	4,91	4,66
Wheat and wheat flour	3,22	2,54
Oil seeds	3,38	3,43
Cotton raw (pressed and unpressed)	3,36	3,21
Fruits and vegetables fresh	2,44	2,65
Marble and stone	4,08	4,38
Salt	3,66	3,47
Manganese ore	2,97	2,10
Other ores	3,51	3,51
Oil fuel	2,95	3,52
Kerosene oil (in bulk and in tins)	3,49	3,67
Petrol (in bulk and in tins)	4,18	4,05
Wood unwrought	2,50	2,91
Sugar, refined and unrefined	4,49	3,91
Cotton manufactured	3,39	3,38
Vegetable oil and other edible oils	1,98	2,09
Cement	4,90	5,08
Iron and steel wrought	9,11	10,44
Provisions	3,05	3,21
Tea	2,27	1,45
Jute raw	1,63	1,15
Jute manufactured	98	1,02

Detailed statistics of goods traffic are given in Summary X, statements 13, 29 and 36 of Volume II of this Report.

33. Measures relating to statistics and statistical organization.—Work on the standardization of statistical procedure and improvement of the scope and accuracy of statistics was continued during the year. An important decision taken during the year was the re-introduction of apportionment of railwaywise and gaugewise earnings and of inter-railway and inter-departmental adjustments in expenditure. The consequential changes in statistics facilitate comparability of current statistics with the statistics recorded prior to 1 April 1952.

These changes have brought about corresponding changes in both commodity statistics and the earnings from the traffic carried on each railway and by gauges.

As the instructions for the compilation of statistics were issued several years ago, there has arisen the need for reviewing the methods of statistical compilation and procedure to which the Indian Railway Enquiry Committee 1947 invited special attention. With the integration of the States' railways and the regrouping of the Railways, the need to promote uniformity of standards and procedure in statistics became particularly urgent. The findings of an Officer placed on Special Duty during 1953-4 to examine in the first instance the existing methods of compilation of approximate statistics, disclosed numerous instances of non-observance of the statistical instructions, lack of uniformity in the forms used, etc. It was decided to revive the statistical inspection organization, the duties of which would be to carry out systematically a continuing check on the methods of compilation of statistics along the whole line, from the primary sources to the Railway Statistical Offices consolidating them before transmission to the Railway Board.

The instructions for the compilation of the Annual statements published in Volume II of the Railway Board's Annual Report were issued as long ago as 1932. Since then revisions of the instructions relating to the different statements from time to time were made in the form of circular letters. The consolidation and revision of these instructions to accord with current requirements were long overdue. This work was undertaken during 1953-4, completed and sent to the press during 1954-5. Another change during the year was the decision taken to compile quarterly statements of Class I and Class II categories of staff on the Railways. A satisfactory procedure for reporting these statistics has been finalized, and experience of this will facilitate the extension, if necessary, to other categories of staff in the future.

The task of improving the accuracy of compilation is a continuing one. During the year certain doubts which had led to the inclusion of extraneous data in the reporting of approximate earnings and tons lifted were removed by the issue of revised instructions.

CHAPTER III

TRANSPORTATION

A.—OPERATING

34. Operating general.—During the year the punctuality of mail and important through passenger trains recorded a drop on both the Broad and Metre gauges due mainly to the impact of *mela* and pilgrim traffic, heavy traffic in connection with the Congress session at Avadi, cyclonic weather and floods in fairly extensive areas and high incidence of alarm-chain pulling, particularly on the North Eastern, Eastern and Southern Railways. On the Broad gauge, the percentage of trains not losing time decreased from 74·8 during the previous year to 72·9 while on the Metre gauge the percentage decreased from 70·2 to 63·8.

Goods traffic.—Clearance of traffic in terms of wagon loads on Indian Railways during the entire year 1954-5, has as indicated below, been considerably higher than that during the previous year:

—	Loading in 1953-4 in terms of wagons	Loading in **1954-5** in terms of wagons	Percentage increase in loading over 1953-4	Percentage increase in the No. of wagons.
Broad gauge	4,279,909	**4,568,058**	6·73	3·50
Metre gauge	2,522,174	**2,632,078**	4·36	7·00

Even with this increase in loading it has not been possible to meet all the demands for movement currently. The outstanding traffic registered at stations awaiting clearance at the end of 31 March 1955, was much more than the corresponding figure on 31 March 1954 in spite of the increased loadings.

OUTSTANDINGS IN TERMS OF WAGON LOADS AS ON

	31-3-1954	**31-3-1955**	Percentage increase over 31-3-1954
B. G.	59,247	**89,413**	51
M. G.	78,494	**116,223**	48

The demand for movement by rail continues to be heavy as a result of improvement in industrial and economic activity of the country and increased production and decontrol of foodgrains. The movement of traffic has particularly been difficult to stations:—

(i) south of Bezwada towards Madras ;
(ii) *via* Raichur to Madras and beyond;
(iii) to Saurashtra both *via* Viramgam and Mehsana; and
(iv) to North Bihar and Assam *via* Manduadih, Mokameh Ghat, Bhagalpur, Sakrigali, Manihari and Assam Rail Link.

Early in February 1955, it was felt that the existing rate of clearance was not adequate to keep pace with the tempo of increasing traffic offering on Railways and certain directives were issued to the Railways to take in hand various works as an emergency measure for provision of additional facilities to increase the capacity for movement on certain sections, yards and transhipment points. The result of the measures taken would be reflected in the clearance of traffic during the year 1955-6.

35. Working of the revised procedure for clearance of goods traffic introduced with effect from 17 August 1953.—As the demands for movement of traffic continued to be far in excess of the available rail transport capacity, rationing of traffic also had to continue. The Preferential Traffic Schedule as revised from 17 August 1953 which, apart from making provision for movement of raw materials and finished products for certain basic industries

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such as textile, cement and iron and steel on a planned basis, also provides for the movement of all other commodities in varying quantities, remained applicable throughout the year under report. This step has enabled all types of traffic to have a share in the available transport capacity and helped to serve the needs of the overall economy of the country in a more satisfactory manner.

36. Transport of coal.—During the year, the control and distribution of coal continued as before through the Coal Commissioner's Office under the administrative control of the Ministry of Production.

As compared with the previous year, there was improvement in loadings from West Bengal and Bihar, Vindhya Pradesh and Hyderabad coalfields, while there was a slight drop in loadings from Orissa and Madhya Pradesh coalfields. In all 1,469,167 Broad gauge wagons were loaded during the year, an increase of 6·69 per cent as compared with the loadings of the previous year. From West Bengal and Bihar coalfields 1,194,170 Broad gauge wagons were loaded representing an increase of 6·79 per cent.

With effect from 15 June 1954, the minimum guaranteed supply of the West Bengal and Bihar coalfields was increased from 2,885 to 3,085 Broad gauge wagons a day. The average daily loading in this field was in excess of this minimum figure.

With effect from August 1954, the minimum guaranteed supply for Vindhya Pradesh coalfield was raised from 295 to 302 Broad gauge wagons, which was further raised to 317 wagons a day from December 1954. The daily average loadings were, however, below the minimum figure for this field due, primarily, to low indents on Sundays and holidays.

The movement of coal to Saurashtra, as of other commodities, continued to be difficult. However, in January 1955, a coal dump was created at Viramgam for the cement industry to which movements were arranged in block loads. This has increased the movement *via* Viramgam of coal for other consumers involving direct transhipment. Similarly, a coal dump for loco coal was created at Sabarmati thereby increasing the overall movement *via* this transhipment point.

The movement of coal, like that of other essential traffic, was subject to the limitations of availability of rolling stock (wagons and engines) and of the availability of capacity over certain sections, such as to the South and *via* break-of-gauge transhipment points, etc.

37. Movement of certain commodities by block trains.—Block, that is full load, goods trains continued to be operated between certain stations during the year. The percentage of the total wagon loads of traffic moved by such block trains to the total wagon loadings on the Broad gauge railways, excluding coal and coke and home line stores and materials, declined from 9·70 in 1953-4 to 7·54, during the year owing partly to the decontrol of food-grains which resulted in the decrease of traffic sponsored by Government and offered for movement in full train loads.

38. Volume of traffic handled.—The upward trend in the volume of traffic handled which commenced in 1953-4 continued during the year 1954-5. Passenger traffic measured in terms of passenger miles increased during 1954-5 from 37,096 million to 38,316 million or by 3·29 per cent. Goods traffic as indicated by net ton miles increased by 8·77 per cent from 29,274 million to 31,840 million. The increase in the passenger and goods traffic handled on the Government Railways is shown in the table below :—

VOLUME OF TRAFFIC CARRIED ON GOVERNMENT RAILWAYS,
NET TON MILES AND PASSENGER MILES

(Figures in million)

	1953-4	1954-5	Increase or decrease % over 1953-4
Government Railways—			
Net ton miles*	29,274†	**31,840**	+8·77
Passenger miles	37,096	**38,316**	+3·29

* Excludes departmental.
† Revised figures.

39. Train miles.—The train mileage operated to handle the traffic during the year was 190·77 million which meant an increase of 6·14 million or 3·33 per cent over the figure for 1953-4.

TRAIN MILEAGE OPERATED DURING 1954-5 COMPARED WITH 1953-4

(Figures in thousands)

	1953-4	1954-5	Increase or decrease % over 1953-4
Government Railways—			
Passenger (including proportion of mixed)*	110,920	**113,649**	+2·46
Goods (including proportion of mixed)†	73,706	**77,116**	+4·63

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, the mileage of electric locomotives and electric multiple unit trains as well as military specials but excludes departmental trains.

† Includes mileage of electric locomotive trains, but excludes departmental.

Passenger train miles increased during the year by 2·46 per cent to 113·6 million as compared with an increase of 3·29 per cent in passenger miles. Goods train miles totalled 77·12 million, representing an increase of 4·63 per cent over the figure for the previous year, as against an increase of 8·77 per cent in the ton mileage. Consequently, the average freight load of goods trains recorded an increase of 3·73 and 2·78 per cent on the Broad and Metre gauges respectively over the previous year.

The detailed figures of train miles of Government Railways are shown in statements 17 and 32 of Volume II of this Report.

40. Shunting miles.—Unproductive engine miles, classified under the head 'Other engine mileage' showed, during the year a slight decrease from 22·9 per cent to 22·6 per cent of the total engine mileage as compared with the previous year.

Shunting miles, forming the greater portion of such unproductive mileage amounted to 15·24 per cent of the total engine miles as against 15·36 per cent during 1953-4. The following table shows the ratio per 100 train miles of passenger and goods shunting miles on Government Railways during 1954-5 compared with 1953-4. It will be seen that as compared with the previous year less shunting miles were operated to move 100 train miles in respect of goods services on the Broad gauge and passenger services on the Metre gauge while the position deteriorated in respect of passenger services on the Broad gauge and goods services on the Metre gauge.

SHUNTING MILEAGE DURING 1953-4 AND 1954-5—GOVERNMENT RAILWAYS

Shunting miles per 100 train miles	1953-4	1954-5	Increase or decrease % over 1953-4
Passenger and proportion of mixed—			
Broad gauge	6·21	**6·48**	+4·35
Metre gauge	6·22	**5·80**	−6·75
Goods and proportion of mixed—			
Broad gauge	40·6	**39·4**	−3·43
Metre gauge	43·2	**43·4**	+0·46

Other principal features of passenger and goods train operation of Government Railways during the year have been referred to in the following paragraphs.

41. Passenger trains.—It will be seen from the table below that on the Broad gauge, passenger train services increased by 2·44 per cent, vehicle miles by 2·96 per cent and passenger miles by 1·92 per cent. The percentage increases in respect of passenger train miles, vehicle miles and passenger miles on the Metre gauge were 1·37, 3·21 and 5·06 per cent respectively.

STATISTICS OF PASSENGER TRAFFIC—GOVERNMENT RAILWAYS

(Figures in million)

Particulars	Broad gauge		Increase or decrease %over 1953-4	Metre gauge		Increase or decrease %over 1953-4
	1953-4	1954-5		1953-4	1954-5	
Passenger miles . .	25,116·2	**25,598·0**	+1·92	11,409·3	**11,986·2**	+5·06
Coaching vehicle miles (including proportion of mixed)	1,047·2	**1,078·2**	+2·96	606·7	**626·2**	+3·21
Passenger train miles (including proportion of mixed)*	68·79	**70·47**	+2·44	38·80	**39·33**	+1·37

* Includes the mileage of trains conveying passengers and all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, mileage of electric locomotives and electric multiple unit suburban trains as well as military specials but excludes departmental.

42. **Punctuality of passenger trains.**—During the year, there was a set-back in the punctuality of passenger trains as already mentioned in the opening paragraph of this chapter. The deterioration occurred under all heads except in the case of mixed and suburban trains over the Broad and Metre gauges respectively which showed some improvement. The following table will show the results achieved in the form of percentage of passenger and mixed trains not losing time to the total number of trains run on all Government Railways during 1954-5 as compared with 1953-4.

PERCENTAGE OF PASSENGER AND MIXED TRAINS NOT LOSING TIME

Year	All trains (including electric multiple unit trains)	Mail (and important through trains)	Mixed trains	Suburban trains	Other passenger trains
Broad gauge—	%	%	%	%	%
1953-4	80·32‡	74·79	84·46	83·31‡ *80·53‡	78·71
1954-5	**79·88**	**72·89**	**84·71**	**84·54** ***79·91**	**77·87**
Metre gauge—					
1953-4	81·62	70.19	80·74	73·68 †97·49‡	79·79
1954-5	**77·79**	**63·82**	**77·62**	**85·60** **97·09†**	**74·56**

* Electric multiple unit trains of the Western and Central Railways.
† Electric multiple unit trains of the Southern Railway.
‡ Revised.

43. **Augmentation of passenger train services.**—Wherever feasible, passenger train services continued to be augmented during the year to meet the requirements of traffic. On 1 April 1955, the passenger train services on Indian Railways, expressed in terms of train miles per day, had increased by about 3,239 on the Broad gauge and 2,184 on the Metre gauge over those which operated on 1 April 1954.

44. **Goods trains.**—As compared with the previous year, goods train miles on the Broad gauge increased by 5·59 per cent, wagon miles by 7·66 per cent and net ton miles by 9·51 per cent. On the Metre gauge also, there has been an increase of 1·20 per cent in train miles, 4·41 per cent in wagon

miles and 4·32 per cent in net ton miles. The table below gives the comparative figures for the year 1953-4 and 1954-5.

TRAIN MILES, TON MILES AND WAGON MILES—GOVERNMENT RAILWAYS DURING 1953-4 & 1954-5*

(Figures in million)

	1953-4	1954-5	Increase or decrease % over 1953-4
Broad gauge—			
Ton miles	24,831·2†	**27,193·0**	+9·51
Wagon miles	2,274·3	**2,448·4**	+7·66
Train miles—			
Goods (including proportion of mixed)	51·33	**54·20**	+5·59
Metre gauge—			
Ton miles	4,305·7†	**4,491·9**	+4·32
Wagon miles	645·9	**674·4**	+4·41
Train miles—			
Goods (including proportion of mixed)	19·98	**20·22**	+1·20

* Excludes departmental.
† Revised.

45. Goods train speeds.—Speed of goods trains suffered a slight deterioration as compared with the previous year. On the Broad gauge, it declined from 10·2 miles per hour in 1953-4 to 10·1 miles in 1954-5. On the Metre gauge, it declined from 8·93 to 8·72 during the same period.

46. Goods train loads.—The average net load of goods trains (steam) over the Broad gauge increased as compared with the previous year by 18 tons from 482 in 1953-4 to 500 in 1954-5 while continued improvement was maintained on the Metre gauge by 6 tons from 216 in 1953-4 to 222 in 1954-5.

47. Stock usage.—Efforts to improve the power position on Government Railways resulted during the year in an increase in the number of engines employed daily on different services and in the total engine miles run. It will be seen from the figures included in the accompanying table that the total engine miles increased by 3·65 per cent on the Broad gauge as against an increase of 3·51 per cent in the average number of engines in daily use. On the Metre gauge, the total engine miles registered an increase of 0·98 per cent as against an increase of 1·90 per cent in the number of engines in use. The engine miles per engine day in use remained at the same level as that during the previous year, *viz.*, 112 on the Broad gauge and 103 on the Metre gauge.

STOCK USAGE ON GOVERNMENT RAILWAYS

Particulars	Broad gauge		Increase or decrease % over 1953-4	Metre gauge		Increase or decrease % over 1953-4
	1953-4	**1954-5**		1953-4	**1954-5**	
Average number of engines in use daily on different services	3,842	**3,977**	+3·51	1,999	**2,037**	+1·90
Total engine miles (in thousands)	154,658	**160,304**	+3·65	74,747	**75,482**	+0·98
Engine miles per day per engine in use	112	**112**	—	103	**103**	—

48. Engine usage.—Engine miles per day per engine on line (*i.e.*, inclusive of the engines under repairs, etc.) registered further improvement on the Broad gauge from 83 miles in 1953-4 to 85 miles in 1954-5 and on the Metre gauge from 74 miles in 1953-4 to 76 miles in 1954-5. The percentage of locomitives under or awaiting repairs in mechanical or transportation

workshops, to the total number on line declined from 18·0 to 17·3 per cent on the Broad gauge and from 18·5 to 16·3 per cent on the Metre gauge.

The amount of work done, associated with revenue earnings, by locomotives expressed by the statistical unit, 'net ton miles per goods locomotive day in use/on line', recorded improvement both on the Broad and Metre gauges in comparison with the previous year.

STATISTICS OF LOCOMOTIVE USAGE—GOVERNMENT RAILWAYS

—	Net ton miles			
	Broad gauge		Metre gauge	
	Per goods locomotive day on line	Per goods locomotive day in use	Per goods locomotive day on line	Per goods locomotive day in use
1953-4	*19,083	*27,653	*7,398	*11,866
1954-5	**20,318**	**29,345**	**8,263**	**12,851**
Increase or decrease % over 1953-4	+6·47	+6·12	+11·7	+8·30

Details of engine usage are shown in statement No. 22 of Volume II of this Report.
* Revised.

49. Wagon usage.—During the year, the wagons were hauled on an average of 43·3 miles and 28·4 miles a day on Broad and Metre gauges respectively as against 40·1 and 28·4 miles respectively during 1953-4 thus indicating an improvement on Broad gauge. The net ton miles moved per wagon day recorded an increase from 441 to 483 on the Broad gauge while on the Metre gauge it maintained the same average of 194 as in the previous year. The percentage of wagons under or awaiting repairs in mechanical and transportation workshops and sick lines to the total goods stock on line improved both on the Broad and Metre gauges from 7·30 and 7·42 per cent in 1953-4 to 6·79 and 6·95 per cent in 1954-5 respectively.

50. Wagons loaded with 'Smalls'.—The proportion of wagons loaded with 'smalls' traffic to total number of wagons loaded during 1954-5 as compared to 1953-4 recorded a nominal increase on the Broad gauge and a decrease on the Metre gauge.

NUMBER OF WAGONS LOADED WITH 'SMALLS'—GOVERNMENT RAILWAYS

—	Number		Percentage of the total number of wagons loaded	
	1953-4	**1954-5**	1953-4	**1954-5**
Broad gauge	*355,071	**410,255**	*8·30	**8·98**
Metre gauge	*356,998	**361,715**	*14·15	**13·7**

* Revised.

51. Improvement in marshalling and other yards and their working.—*Central Railway.*—The following works were in progress:—

(*a*) remodelling of the yards at Kazipet and Dornakal;

(*b*) provision of one additional receiving line in the Up yard and two additional sorting lines each in the Up and Down yards at Ajni;

(*c*) provision of three additional lines at Itarsi yard for reception and despatch of trains from and to Amla;

(*d*) provision of additional marshalling lines and a shunting neck in the yard at Amla;

(*e*) provision of additional facilities in the Down yard and an additional receiving line in the Up yard at Bina;

(*f*) remodelling of station yard and interlocking at Harda ;

(*g*) provision of one additional receiving line in the Up yard at Itarsi ;

(*h*) provision of additional facilities in the yard at Damoh.

Eastern Railway—

(*a*) The following additional facilities were provided during the year:—

(i) an additional marshalling line in the Up yard at Patna junction ;

(ii) an additional line in the Up yard at Moghalsarai.

(*b*) The following works were in progress:—

(i) additions and alterations to Sakrigali Junction ;

(ii) additions and alterations at Bhagalpur in connection with the restoration of the Bhagalpur-Mandar Hill Branch;

(iii) extension of 3 dead-end sidings for increased marshalling facilities at Barakar ;

(iv) provision of additional facilities in the central yard and replacement of east central cabin, west central cabin, and down yard Goomty at Moghalsarai; also facilities at West end for simultaneous reception of down goods trains from Lucknow and Allahabad.

(v) Remodelling of Bhadrak yard by providing an additional reception line, extension of existing lines and the provision of improved signalling and interlocking arrangements for the goods yard ;

(vi) remodelling or Khurda Road yard to provide a new Up yard, an additional passenger line and a new passenger platform along with shifting of the goods shed to a new site ;

(vii) remodelling of Palasa yard to provide an additional goods reception line, a new passenger line and an additional passenger platform face ;

(viii) the construction of a new yard on the west bank of Kharkhai river between Tatanagar and Gomharria on the Howrah-Nagpur main line taken up in connection with the expansion programme of the Tata Iron and Steel Works.

Northern Railway—

(*a*) The following additional facilities were provided during the year:—

(i) provision of cross-over in goods yard and of an engine escape line for down goods yard at Lucknow ;

(ii) a fourth line at Parbatsar city.

(*b*) Work for providing a grid and alterations to existing classification yard at Juhi was in progress.

North Eastern Railway.—The following works were in progress:—

(*a*) Improvement in the marshalling yard at Siliguri Junction by regrading the yard;

(*b*) provision of an office for the Yard Master at Siliguri Junction ;

(*c*) relaying of worn out $41\frac{1}{4}$ lbs. track of the down marshalling yard at Gorakhpur.

Southern Railway—

(*a*) The following additional facilities were provided during the year:—

(i) two additional sorting lines completed in Nandalur yard and one additional sorting line provided in Arkonam yard ;

(ii) the sorting lines in the East Hump at Tondiarpet marshalling yard, extended to hold 80 vehicles each ;

(iii) coal transhipment work, hitherto done at Madras Beach yard, transferred to Korukkupettai ;

(iv) two reception lines for receiving trains directly into the sorting yard at Bezwada from the Central Railway ;

(v) an additional cabin, with block instruments for permitting entry of such trains, opened between Bezwada and Rayanapad station on the Central Railway.

(*b*) The following works were in progress:—

(i) remodelling of Raichur yard ;

(ii) work in Erode yard for laying two additional sorting lines for holding 50 and 60 vehicles each.

Western Railway—

(*a*) *Broad gauge*.—The following works were in progress:—

(i) remodelling of the Up marshalling yard at Ratlam;

(ii) provision of a 85 ft. diameter turntable in place of the existing 75 ft. diameter turntable at Bandra marshalling yard;

(iii) additions and alterations to yard and station premises at Broach.

(*b*) *Metre gauge*—

The following additional facilities were provided during the year:—

(i) remodelling of Palanpur yard;

(ii) additions and alterations to the yard at the north end at Surendranagar, Dhola and Jetalsar ;

(iii) provision of Metre gauge shunting necks, and additions and alterations to Metre gauge yard at Agra East Bank nearing completion ;

(iv) additional facilities at Sawai-Madhopur yard for increased transhipment ;

(v) additional sidings at Sabarmati and Viramgam yards for opening of coal dumps.

The following works were in progress:—

(i) remodelling the yard at Sabarmati and Kankaria ;

(ii) additions and alterations to the yard at Botad.

52. Wagon position, Broad gauge wagon pool.—The number of public service wagons (in terms of four wheelers) owned by the Railways in the wagon pool on 31 March 1955 was 163,639 which was 5,195 more than that at the end of the previous financial year. The total number of wagons loaded during the year was 4,568,058, which represents an increase of 288,149 wagons or 6·73 per cent over the loadings during the previous year. Demands for wagons exceeded from time to time their availability on most of the railways.

53. Wagon position, Metre gauge wagon pool.—

(a) *Northern system.*—The number of Metre gauge public service wagons (in terms of four wheelers) owned by the Northern, North Eastern and Western Railways on 31 March 1955, including reconditioned W. D. stock, was 51,455 which represents an increase of 3,985 wagons over the number as on 31 March 1954. The wagon position continued to be difficult as the demands were in excess of the wagon supply. The total number of wagons loaded during the year was 1,777,358, *i.e.*, 95,247 wagons or 5·66 per cent more than the loadings, during the previous year.

(b) *Southern system.*—The total number of Metre gauge public traffic wagons (in terms of four wheelers) owned by the Southern and Central Railways on 31 March 1955 was 18,212, *i.e.*, 123 wagons less than that at the end of the previous year. The total number of wagons loaded during the year was 854,720, *i.e.*, of 14,657 wagons or 1·74 per cent more than the loading

during the previous year. The wagon position continued to be difficult throughout the year.

54. Interchange with Pakistan Railways.—During the year, Indian Railways made over to the Pakistan Railways 43,389 Broad gauge wagons, including 39,945 loaded wagons. Of the 1,821 Metre gauge wagons made over to Pakistan Railways, 1,158 were loaded. The total number of wagons received from Pakistan Railways was 43,438 Broad gauge including 16,467 loaded and 2,101 Metre gauge wagons, of which 1,445 were loaded. On an average the Pakistan Railways were creditors by 956 Broad gauge and 277 Metre gauge wagons daily during the year.

55. Neutral control examination of wagons at interchange junctions.—The system of Neutral Control Examination of wagons under the Director of Wagon Interchange was in force at the following points :—

(i) *Interchange junctions*—

Broad gauge

Ajni (Nagpur)
Chheoki
Ghaziabad*
Khanalampura *
New Delhi
Waltair
East Dock Junction
Kanpur (GMC)
Agra Cantt.
Agra East Bank

(ii) *Workshops*—

Broad gauge

Lillooah
Jhansi
Matunga
Parel (Mahalaxmi)
Alambagh
Kanchrapara
Kharagpur.

Metre gauge

Gorakhpur
Abu Road
Mehsana

(iii) *Marshalling yards*—

Moghalsarai
Tondiarpet

(iv) *Sick lines*—

Howrah goods
Lucknow (from 15 February 1955).

Flying squad.—A flying squad attached to the I. R. C. A. Office, is engaged in checking up the general conditions of goods stock all over the country.

56. Progress made in the introduction of local and through express goods trains running on fixed schedules.—The daily and weekly Express Goods trains were run to fixed time tables at accelerated speeds, shunting at only a few selected important points *en route*. They not only provided quick service between important centres but also helped in better utilization of stock.

* Neutral control has been continued at these points though they ceased to be interchange junctions.

The details of these trains are given below :—

Local

Railway	From station	To station	Frequency
Central	Wadi Bunder	Secunderabad	Weekly
,,	,,	Raichur	,,
,,	,,	Jubbulpore	,,
,,	Wadi Bunder	Nagpur	,,
,,	,,	Jhansi	,,
,,	,,	Kanpur	,,
Eastern	Howrah	Jamalpur	Daily
,,	Jamalpur	Howrah	,,
,,	Chitpur	Moghalsarai	,,
,,	Moghalsarai	Chitpur	,,
,,	Howrah	Moghalsarai	,,
,,	Moghalsarai	Howrah	,,
,,	Asansol	Moghalsarai	,,
,,	Moghalsarai	Asansol	,,
North Eastern	Muzaffarpur	Manduadih	,,
,,	Manduadih	Muzaffarpur	,,
,,	Mariani	Tinsukia	,,
,,	Tinsukia	Mariani	,,
,,	Lumding	Mariani	,,
,,	Mariani	Lumding	,,
,,	Pandu	Lumding	,,
,,	Lumding	Pandu	,,
Western	Bombay	Ahmedabad	,,
,,	Ahmedabad	Bombay	,,

In addition to the local express goods trains indicated above, weekly and daily through services were introduced on a co-ordinated basis. These weekly and daily through Express services provided an accelerated service for movement of goods traffic between the four important centres, *viz.*, Calcutta, Delhi, Madras and Bombay. Weekly and daily through Express services were regularly run between the following stations:

Bombay and Shalimar	over	Central and Eastern Railways	Weekly
Bombay and Madras	,,	Central and Southern ,,	,,
Madras and Shalimar	,,	Southern and Eastern ,,	,,
Delhi and Howrah	,,	Northern and Eastern ,,	,,
Bombay and Delhi	,,	Western and Northern ,,	Daily

57. **Withdrawal of First class accommodation from trains.**—The process of progressive elimination of First class accommodation from Indian Railways, which began from 1 October 1952, was completed on the mid-night of 31 March 1955.

With effect from 1 April 1955, the former First class has been abolished on all trains on Indian Railways, and the remaining classes, *i.e.*, the Second, Inter and Third have been redesignated First, Second and Third, respectively.

58. **Coal mined in India.**—In 1954-5 the coal mined in the various states in India amounted to 36,880,810 tons as against 35,979,167 tons in the year 1953-4, *i.e.*, there was an increase of 901,643 tons in the year under review.

59. **Coal despatched by rail.**—The quantity of coal carried by the Eastern Railway during 1954-5 was 27·90 million tons, or 0·49 million tons more than that carried during the previous year.

60. Coal supply and coal stock position.—The stocks of steam coal on Indian Government Railways which stood at 16·9 days consumption requirements at the beginning of the year rose steadily to 18·3 days level on 20 May 1954, but again declined gradually to 16·8 days requirements on 20 July 1954. This was followed by a gradual upward trend till the stock position reached the level of 22·4 days consumption on 20 October 1954, the highest level reached during the year. Subsequently there was a set-back and the stocks steadily dropped to 13 days requirements at the end of the year.

The coal stock position on the Central and Western Railways remained unsatisfactory almost throughout the year on account of low indents from collieries, quota limitations and imposition of operating restrictions from time to time due to unavoidable circumstances. In order to augment supplies to these Railways a part of their requirements was arranged, as a special case, by rail-*cum*-sea route and additional rail transport was made available *via* Chheoki and Kanpur for the movement of loco coal. To facilitate supplies to the Gondal Region of the Western Railway, a loco coal dump was also created at Sabarmati in December 1954. The coal stocks on Southern Railway also dropped below the desired level during the later part of the year under review due to short supplies by sea route partly on account of suspension of shipping to Mormugoa Port from August 1954 and partly to congestion at Madras Port during October and November 1954. Additional supplies were made from West Bengal and Bihar coalfields *via* Waltair and from Singareni *via* Bezwada in order to meet the demands of the Railway.

Although penalties were imposed by Government on collieries resorting to loading of coal below the specific standard, a large number of complaints regarding inferior quality of coal continued to be made by Railways to the Coal Commissioner.

There was no reduction in the supplies of metallurgical coal to Railways during the year as the total production of this coal was in excess of the requirements for metallurgical purposes. Moreover, the non-metallurgical coal of equivalent calorific value, after meeting the demands of other consumers, was not adequate to replace the metallurgical coal being supplied to Railways.

61. Total coal consumed by railways.—The total quantity of coal consumed on all Indian Railways during the year under review is shown below, compared to the previous year:

	Tons 1953-4	Tons 1954-5
Government Railways	*11,276,608	**11,791,238**
Non-Government Railways	81,393	**63,173**
Total	*11,358,001	**11,854,411**

The gradewise distribution is as follows :—

	Tons 1953-4	Tons 1954-5
Selected A	1,360,322	**1,319,849**
Selected B	2,651,404	**2,861,436**
Grade I	5,435,001	**5,989,547**
Grade II	*1,257,885	**1,097,220**
Grade III A	23,953	**15,505**
Small coals	629,436	**570,854**
Total	*11,358,001	**11,854,411**

* Revised figures.

NOTE.—Figures for the Gondal region of the Western Railway and the Assam portion of the North Eastern Railway have been distributed on an estimated basis.

62. Economy in Fuel Consumption.—The railways had continued their efforts to secure economy in fuel consumption costs by vigorous action on the recommendations of the Railway Fuel Economy Enquiry Committee. Some of the important recommendations and action taken thereon during the year under review are briefly reviewed seriatim below :—

Production of coal.—The increased output of coal proposed in the Second Five Year Plan will meet the recommendations of the Railway Fuel Economy Enquiry Committee regarding zonal production of coal.

Grading and Pricing of coal.—It is understood that the 'Terminology Classification of Coal' Sub-Committee set up by the Indian Standards Institute for evolving a scientific classification (grading) of coal have already submitted their recommendations in the form of a draft specification. The Ministry of Production have accordingly been asked to indicate when the Committee proposed by the Railway Fuel Economy Enquiry Committee for pricing and grading of coal will be set up.

Preparation of coal.—The recommendations regarding the setting up of pilot washing plants at the Fuel Research Institute and provision of funds therefor are being examined by the Ministry of Production in consultation with the Ministry of Natural Resources and Scientific Research. The report of Coal Washeries Committee appointed by the Coal Board and the latter's resolution on the recommendations of the Committee are now being examined by the Ministry of Production. Further, on the recommendations of the Coal Washing Plant Committee which was appointed by Government to report on the establishment of a Washery at Kargali/Bokare Colliery, an indent for the supply and erection of a coal washery in this area has been placed by the Ministry of Production on the Director General, Supplies and Disposals.

Lignite or Brown Coal.—The Central Government have taken over the responsibility for financing further investigations and completion of the pilot quarrying scheme in connection with development of lignite deposits in South Arcot District of Madras. The Ministry of Production have recently examined different schemes recommended by Messrs. Power Duffryn Technical Services Ltd., in their report on Lignite Project, and a Project Co-ordinating Committee consisting of representatives of the Central and Madras Governments has been set up to prepare a concrete scheme on the basis of this Report for consideration of the Government.

Laboratory investigations are being progressed by the Fuel Research Institute and the Bureau of Mines on the different purposes for which lignite can be used.

Loco Coal Requirements, Supply and Distribution.—The principle of assessing loco coal demands on the basis of the suitability of coals for different types of locomotives in use has been accepted and railway coal demands are now being worked out on this principle.

A rationalized loco coal programme prepared by the Railway Testing and Research Centre by linking sources of supply with complete districts or zones on Railways was examined in January 1955 by a Sub-Committee appointed by the Board on the recommendations of the Indian Railway Fuel Committee. This programme could not be implemented due to the difficulties experienced by certain railways in setting up distributing centres at suitable locations for receiving their own supplies, and the matter is being examined.

The proposal for setting up a procurement and inspection organization under the Ministry of Railways is being examined in consultation with the Ministry of Production.

Transport Problems and Supply of Coal to the South.—The main difficulty in implementing the coal supply plan to the South was mainly due to inadequate line capacities and junction yard limitations over the rail routes to the South. Some works for the development of junction yards

and line capacities have already been executed as indicated in the previous year's report, and further works are being progressed under the Second Five Year Plan.

Progress in connection with economy in consumption and prevention of losses of coal is linked up with the development of Fuel Control Organizations on the Railways, the position in regard to which is indicated below.

Fuel Accounts.—Principles recommended by the Chartered Accountants for improving the Fuel Accounting System on Railways have been generally accepted and necessary action is being taken.

Fuel Statistics.—Detailed instructions regarding the preparation of statistics on the basis of service groups so as to provide for effective check on fuel consumption figures, under more or less uniform operating conditions, have been issued to the Railways.

Electrification.—An abstract estimate amounting to Rs. 1,184·704 lakhs for the electrification of the section between Howrah to Burdwan (first phase) on the Eastern Railway has been sanctioned by the Board and the preliminary work is in hand. Besides this, the electrification of Burdwan-Gaya and Gaya-Moghalsarai sections on this Railway is also receiving attention.

The electrification of Igatpuri-Bhusaval section on the Central Railway, Quilon-Ernakulam section on the Southern Railway and Virar-Ahmedabad section of the Western Railway are also receiving attention. Further, it is proposed to electrify the main line between Madras-Villupuram and electrification of the section between Tambaram and Villupuram has figured in the Works Programme for 1955-6. The electrification of sections between Kanpur-Lucknow and Delhi-Amritsar on the Northern Railway is proposed to be considered in the Third Five Year Plan.

Power and Fuel Research.—Research is being undertaken at the Railway Testing & Research Centre, Lucknow, on the following problems :—

(*a*) improvement in the efficiency of the existing locomotive boilers ;

(*b*) boiler proportions to improve combustion efficiency with non-coking coals ;

(*c*) steam distribution to improve thermal efficiency ;

(*d*) fuel-saving devices to improve over-all efficiency of locomotives ;

(*e*) economic load speed combinations for different types of locomotives ;

(*f*) improvement of costing conditions;

(*g*) riding qualities of rolling-stock.

Fuel Control Organizations and Training Centres.—The Committee's proposals in connection with the strengthening of fuel control organizations on Railways have been modified by the Indian Railway Fuel Committee and the modified proposals have been put up to the Board for their consideration. A scheme for setting up a separate Central Fuel Control Organization under the Director, Mechanical Engineering is also under consideration.

B.—COMMERCIAL

63. Alterations in rates and fares—

General.—There were no basic changes in the freight rate or fare structure but as normally done, concessional rates and fares were quoted for specific movements where justified.

The more important changes in freight rates and fares during the year are summarized below:

Goods—

(i) The special rate of Re. 0-4-6 per 4-wheeled wagon per mile at owners' risk *plus* full terminals for dry cattle and their calves booked from Bombay, Calcutta and Madras areas to up-country stations with a view to salvaging dry cattle, was continued during the year. The concession was also extended for bookings from Kanchrapara, Naihati, Titaghur, Sodepur, Sheoraphuli Junction, Ballygunge Junction, Tatanagar, Jubbulpore and Madan Mahal stations to up-country stations.

(ii) Concessional rates at one fourth the basic rates *plus* full terminals were granted for consignments intended for flood relief purposes in Assam, Bihar, Uttar Pradesh and West Bengal when the relief goods were consigned to Government Officers, or private relief organizations and parties nominated by the respective State Governments.

(iii) In order to meet the pressing need for fodder in the scarcity areas in Bihar, the concessional rates for the carriage of fodder or forage were applied with effect from 1 November 1954 for traffic from Jhansi and Bargarh Stations on the Central Railway to certain Stations on the North Eastern Railway.

(iv) (*a*) On the North Eastern Railway, for all goods traffic interchanged with steamer companies, a ghat charge of Re. 0-1-8 per maund was introduced with effect from 15 October 1954 at Dibrugarh Ghat, Silghat, Neamati, Pandu Steamer Ghat, Amingaon Ghat, Dhubri Ghat, Manihari Ghat and Tezpur Ghat.

(*b*) In respect of traffic other than that interchanged with the steamer companies, a ghat charge of 8 pies per maund has been levied with effect from 15 February 1955 at Dighaghat, Mokameh Ghat, Paleza Ghat, Barari Ghat, Mahadeopur Ghat and Semaria Ghat situated in Muzaffarpur region of the North Eastern Railway. Similarly a ghat charge of 3 pies per maund on all rail-borne goods traffic (including coal) was levied at Pandu and Amingaon with effect from 15 January 1955 and a charge of 8 pies per maund at Manihari Ghat with effect from 15 October 1954.

(*c*) With effect from 15 February 1955, the chargeable mileages for goods traffic over the following ferry services of the North Eastern Railway were revised as shown against each:

	Chargeable mileage prior to 15 February 1955	Chargeable mileage from 15 February 1955
	Miles	Miles
Mokameh Ghat—Semaria Ghat Digha Ghat—Paleza Ghat Mahendru Ghat—Paleza Ghat Barari Ghat—Mahadeopur Ghat	21	33
Pandu—Amingaon	2	10

(v) With effect from 1 April 1954 the following rates for railway materials and stores were introduced:

Coal			At public tariff rates
Other Merchandise—			
	(*a*) for wagon loads	Per Broad gauge wagon mile	5 annas
		Per Metre gauge or Narrow gauge wagon mile	4 annas
	(*b*) for smalls (all gauges)	per maund per mile.	0·25 pie

Coaching—

(a) *Passenger fares—*

(i) *Hill concessions.*—In order to further encourage travel to hill stations during the summer, concessional hill return tickets at $1\frac{1}{2}$ single journey fares available for three months, were extended to Third class passengers as well in addition to Second and Inter class passengers. These tickets were issued from 1 April to 31 October 1954 from all stations from which the chargeable distance was 150 miles or more to the following stations:—

Simla, Solon, Dharampore (Punjab), Dehra Dun, Pathankot, Kathgodam, Ootacamund, Kodaikanal Road, Abu Road, Coonoor, Darjeeling, Kurseong, Shillong, Pipariya and Kotagiri Out-agency.

These tickets were also issued by First class by the trains which had First class accommodation. Where First class accommodation was not available for part of the journey, combined First and Second class tickets were issued.

(ii) *Kashmir concessions.*—During the period from 1 April 1954 to 31 October 1954, concessional rail-*cum*-road and rail-*cum*-air return tickets for First, Second, Inter and Third classes were issued from certain selected stations on the Indian Railways to Srinagar *via* Pathankot. In the case of First, Second and Inter classes, return tickets were issued at $1\frac{1}{3}$ single journey fares and in the case of Third class at $1\frac{1}{2}$ single journey fares.

(iii) *Circular tour concessions.*—From 1 April 1954, standard circular tour tickets for distances of 1,500 miles and over, available for three months, were introduced over the Indian Railways, at three-fourth the public tariff rates for Second, Inter and Third class passengers.

In order to meet the individual requirements of the tourists, similar concession tickets were also issued by Railways for itineraries suggested by the parties themselves and approved by Railways subject to certain conditions.

(iv) *Concession for Melas and fairs.*—Return tickets at concession fares were introduced by railways in connection with a number of local *melas* and fairs.

(v) *Students concessional monthly season tickets.*—In non-suburban areas students' concessional monthly season tickets were introduced between stations situated at a distance of not more than 30 miles apart, the fares levied being at half the normal rate for season tickets.

(b) *Special trains—*

(i) *Excursion/pilgrim special trains.*—As a further step towards encouraging long distance passenger travel, Excursion or Pilgrim special trains for distances of 1,500 miles and over, were charged at three fourth the public tariff rates.

(ii) *Trade Exhibition trains.*—Concessional charges for Trade Exhibition trains were introduced from 1 January 1955.

(iii) *Students special trains.*—To students travelling in parties of not less than 400, on educational tours, additional concessions were sanctioned in respect of scale of accommodation, detention charges, etc.

(c) *Parcels*—

(i) Special rates for vegetables and fresh fruits were introduced from certain stations on the Darjeeling-Himalaya Section of the North Eastern Railway to Calcutta *via* Maniharighat.

(ii) The concessional rate in force for the carriage of handloom products by passenger trains was extended to handloom (cotton or woollen) blankets also, with effect from 1 June 1954.

64. Effect of changes in rates and fares—

Goods traffic.—This was the sixth year in which the revised rates structure introduced with effect from 1 October 1948 operated throughout and there has been no evidence to show that the revised rates structure had any adverse effect on movements of traffic. As already mentioned there has been a large increase recorded during the year under report as against the previous year, of 7·85 per cent under tons originating reaching 105·8 millions in 1954-5. There has been a relatively larger increase in net ton miles of 8·77 per cent, from 29,510 millions to 32,100 millions. This marks a new record of goods transportation.

Passenger traffic.—The bases of passenger fares also remained unchanged during the year under review.

Attention has been drawn earlier to the increases in the passengers carried as also in earnings derived therefrom. The order of increase has been 3·01 per cent in passengers carried and 2·80 per cent in passenger earnings.

65. Efforts to secure better wagon usage and wagon loads.—The indices of the net ton miles per wagon day and wagon miles per wagon day on the Broad and Metre gauges during the year 1954-5 compared with the year 1953-4 were as follows:

	1953-4		1954-5	
	Broad	Metre	**Broad**	**Metre**
(i) Net ton miles per wagon day (in terms of 4-wheelers)	*441	194	**483**	**194**
(ii) Wagon miles per wagon day (in terms of 4-wheelers)	40·1	28·4	**43·3**	**28·4**

* Revised.

The wagon usage, it will be observed, has indicated an improvement on the Broad gauge over last year and has remained at the same figure on the Metre gauge. No overall improvement could be achieved on the Metre gauge due to breaches on the North Eastern Railway where the wagon usage went down and counterbalanced the improvement obtained on every other Metre gauge Railway.

In addition to continuing other measures to improve wagon usage, the following special measures were instituted during the year in order to obtain the results mentioned above:—

(i) minimizing detentions at terminals, junctions and in marshalling yards;

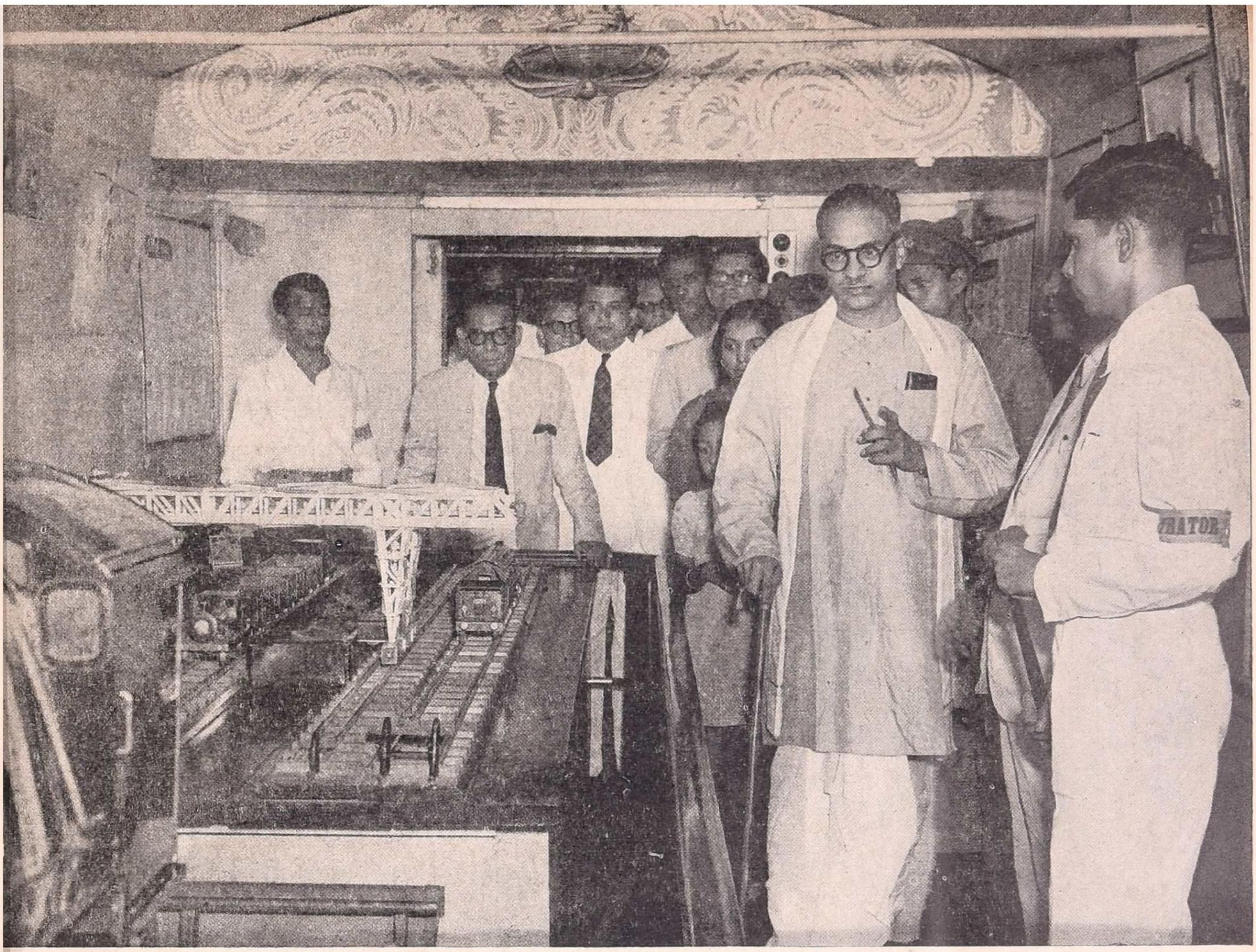
(ii) repairs to wagons not only in shops and on the sick lines, but also on traffic lines wherever feasible ;

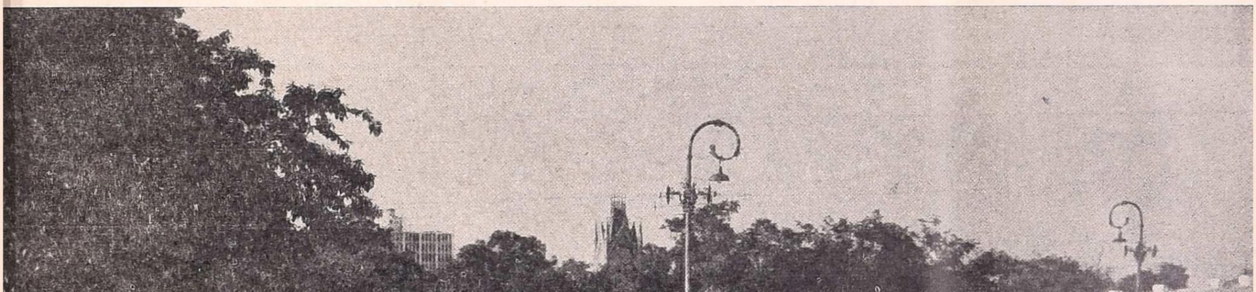
(iii) reduction in free time for loading and unloading;

(iv) increase in the working hours of the goods sheds, including working at night at the break-of-gauge transhipment points in particular;

(v) rationalizing movements to minimize the lead of haul over the Metre gauge in particular.

(vi) running of express goods trains on main trunk routes to a fixed schedule.





THE GOVERNOR OF ORISSA, SHRI P. S. KUMARASWAMY RAJA VISITING THE INDIAN RAILWAYS CENTENARY EXHIBITION TRAIN ON 20 JUNE, 1954 AT PURI RAILWAY STATION.

THE INTENDING VISITORS QUEUING UP FOR THE INDIAN RAILWAYS CENTENARY EXHIBITION TRAIN (B. G.) BROUGHT RIGHT INSIDE THE EDEN GARDENS. TEMPORARY TRACKS WERE LAID OVER-NIGHT ACROSS A MAIN THOROUGHFARE OF CALCUTTA.

66. Co-ordination of rail-road and water transport.—There was no change in the basic policy of achieving co-ordination between Railway and Road Transport (among other means) by railways participating in road transport undertakings run or controlled by the State Governments.

Cutch State.—The Railways participated in the Cutch State Road Transport Corporation set up from 1 December 1954, and invested Rs. 4·00 lakhs as their share of the capital of the Corporation.

Bombay State.—The Central Government invested a further sum of Rs. 47·78 lakhs in the Bombay State Road Transport Corporation, and this Corporation made further steady progress, as may be seen from the following figures:

	31-3-1954	31-3-1955
Number of routes operated on	1,478	1,777
Total route mileage in operation	40,354	46,373
Monthly vehicle mileage operated (million)	4·455	5·300
Estimated revenue (Rs.)	—	8,38,08,037
Estimated expenditure (Rs.)	—	8,07,49,664
Profits (lakhs) (Rs.)	32·23	30·58

The services of the Corporation covered parcels and goods traffic also.

The total annual earnings realized through parcels traffic was Rs. 1,32,000.

As for goods traffic the details are:

1. Monthly truck mileage operated	444,655
2. Total earnings	Rs. 65,93,782
3. Total expenditure	Rs. 70,72,878
4. Loss	Rs. 4,79,096

During the year, interest at Rs. $4\frac{1}{2}$ per cent was paid by the Corporation to the Central Government on the latter's investment.

Madhya Pradesh.—The two road transport companies in Madhya Pradesh, *viz.*, the C. P. Transport Services Ltd., and the Provincial Transport Co. Ltd., in which the Railways participated also made steady progress during the year under review, as will be observed from the following financial results of their operations.

Provincial Transport Company Limited, Nagpur

	1953-4	1954-5
Monthly vehicle mileage	297,700	311,875
Profit	Rs. 7,15,000	8,23,465*

* Subject to audit verification.

The company paid Rs. 32,530 as dividend at 6 per cent on the Central Government's investment.

Central Provinces Transport Services Limited Nagpur

	1953-4	1954-5
Monthly vehicle mileage operated	284,318	365,155
Profit	Rs. 9,17,970	11,38,366*

* Subject to audit verification.

Dividend of Rs. 74,700 at 6 per cent on the Central Government's investment was paid.

Orissa.—There was no further investment by the Central Government or the State Government in the Orissa Road Transport Co. Limited, during the year under review.

Himachal Pradesh.—The Kulu Valley Transport Company, in which the Railways have financial interest and which is being managed by the Himachal Pradesh Government maintained steady progress. The company controlled a fleet of 34 vehicles, and showed a profit of about Rs. 47,000 during the year under review.

Uttar Pradesh.—Negotiations with the State Government for Railway's participation in their Road Transport undertaking continued but no decision was reached.

Punjab.—The Railway Board agreed to take 25 per cent of the share capital, in the Road Transport Corporation proposed to be set up in the State. No investment was, however, made, as the Corporation did not come into existence during the year under review.

Other States.—The question of setting up of a Tripartite Road Transport Corporation (with financial participation by the State as well as the railways) in Madhya Bharat and PEPSU was also under consideration during the year, without any final decisions being reached.

67. Closer contacts with business community.—With a view to associating local public opinion with the day-to-day business of the railways, station committees continued to function at important stations on all railways for holding periodic consultations between the local railway officials on the one hand and the business community on the other.

During the year, these committees were functioning at about 260 stations.

Besides, the National Railway Users' Consultative Council at the Centre and the Zonal and the Regional/Divisional Railway Users' Consultative Committees on the railways, consisting of the representatives of the various interests and users of the railways, continued to meet and discuss subjects of common interest to the railways and the users.

68. Claims for compensation and refunds.—During the year the number of claims disposed of by the Indian Railways was 387,761, as against 376,680 in 1953-4, the number of claims which remained unsettled at the end of the year 1954-5 being 60,471 as against 68,859 at the end of 1953-4, recording a reduction of 12 per cent.

The net amount paid by the Railways on account of goods lost or damaged during the year under review was Rs. 2,55,45,116, as against Rs. 2,89,22,804 paid in 1953-4.

The average time taken in the settlement of a claim was 61 days against 68 days during 1953-4.

The all-round improvement recorded is due to the greater emphasis laid by the Railway Board and the special efforts made by the Railway administrations, for the prevention and expeditious disposal of claims.

The number of suits filed and those which remained outstanding at the close of the year was 33,233 and 18,122 respectively as against 32,648 and 17,253 during 1953-4.

The increase is mainly attributable to the tendency on the part of the claimants to resort to litigation to avoid the possibility of repudiation by the railways on the ground of limitation.

The following statements for Indian railways show for 1954-5:

(*a*) the number of claims received in respect of goods or parcels damaged or lost and of goods and parcels overcharged and the time taken in their settlement;

(*b*) the number and value of claims in respect of goods or parcels lost or damaged under the main causes;

(*c*) the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.

STATEMENT A

Claims received for goods or parcels damaged, lost or overcharged, and the average time for settlement.

Item No.	Particulars	Central	Eastern	Northern	North Eastern	Southern	Western	Total all railways
(1)	Number of claims involving compensation for goods or parcels lost, damaged, or delayed, carried over as unsettled at the close of the preceding year	13,410	25,206	6,175	13,095	6,933	4,040	68,859
(2)	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year	70,230	100,316	58,155	35,176	48,480	66,037	378,394
(3)	Number of claims referred to against (items 1 and 2) settled during the year	74,587	102,787	58,933	34,944	51,796	64,714	387,761
(4)	Balance outstanding as unsettled at the close of the year	9,053	23,714†	5,397	13,327	3,617	5,363	60,471
(5)	Net amount paid in compensation	58,60,750	82,07,778	26,11,780	34,95,229	26,89,417	*26,80,162	2,55,45,116
(6)	Percentage of sum paid in compensation (item 5) to gross earnings	1·58	1·47	0·60	2·92	0·63	1·06	1·15
(7)	Average time taken in settlement of claims shown against items (1) and (2) (days)	69	81	43	69	46	43	61
(8)	Number of applications received for refunds on goods and parcels over-charged	16,077	34,610	31,365	15,276	34,409	18,527	150,264
(9)	Average time taken in settlement of claims shown against item (8) (days)	109	86	41	81	28	77	65

* Unaudited figures.
† 79 cases of the *ex* Bengal Nagpur Railway.

STATEMENT B

Number and Value of Claims Paid

Item No.	Particulars		Central	Eastern	Northern	North Eastern	Southern	Western	Total all railways
(1)	Claims paid on account of goods lost	No.	26,779	12,278	10,692	4,842	10,8[illegible]6	23,995	89,442
		Value (Rs.)	27,61,485	16,02,265	16,87,990	10,61,404	9,97,119	23,69,632	1,04,79,895
(2)	Claims paid on account of goods stolen	No.	*	15,420	2,921	2,472	243	62	21,118
		Value (Rs.)	*	30,75,995	2,00,136	4,72,687	69,001	25,245	38,43,064
(3)	Claims paid on account of goods damaged by wet	No.	4,426	4,185	765	233	1,192	6,401	17,202
		Value (Rs.)	4,92,516	10,96,126	1,34,814	77,711	1,44,704	8,01,966	27,47,837
(4)	Claims paid on account of goods damaged by fire	No.	6	9	9	6	1	13	44
		Value (Rs.)	1,911	23,499	30,793	8,655	269	22,196	87,323
(5)	Claims paid on account of goods damaged by breakage	No.	405	1,796	476	59	215	342	3,293
		Value (Rs.)	26,559	2,68,864	42,203	19,836	18,693	45,181	4,21,336
(6)	Claims paid on account of parcels and luggage lost and stolen	No.	5,497	10,278	3,454	2,906	3,680	7,763	33,578
		Value (Rs.)	1,97,961	12,82,196	2,47,217	3,69,678	3,23,753	4,79,910	29,00,715
(7)	Claims paid on account of other causes	No.	6,747	10,459	6,211	7,021	13,535	1,629	45,602
		Value (Rs.)	6,69,407	14,97,573	12,15,523	17,02,632	10,51,156	1,84,028	63,20,319

* Included in item 1.

STATEMENT C

Number of Court Cases in respect of Claims and their Disposal

Item No.	Particulars	Central	Eastern	Northern	North Eastern	Southern	Western	Total all railways
(1)	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect of goods or parcels lost, damaged or delayed	3,445	12,178	4,854	8,830	999	2,927	33,233
(2)	Number of such suits settled out of court	1,115	3,801	1,177	1,547	241	865	8,746
(3)	Number of suits dismissed	348	1,062	1,014*	232	185	361	3,202
(4)	Number of suits decreed	325	975	465	1,152	70	176	3,163
(5)	Number of suits pending	1,657	6,340	2,198	5,899	503	1,525	18,122

* Includes 612 cases withdrawn.

69. Special drive for prevention of claims.—As many as 378,394 new claims were received or reopened during the year, as against 373,758 in 1953-4.

The increase in the number of new claims registered during the year is slight and was mainly due to the following factors :—

(*a*) Decontrol of foodgrains. Traffic in 'Foodgrains' was previously booked on Government account under a limited number of invoices. With decontrol, the commodity moved in smaller lots under a larger number of invoices, thus resulting in an increase in the number of claims.

(*b*) The monsoon in 1954 was extremely widespread ; in consequence there was greater damage by wet and petty claims on that account increased considerably.

The prevention of claims continued to receive the sustained attention of Railways.

During the year under review the report submitted by Shri B. N. Mullik, Director, Intelligence Bureau, Ministry of Home Affairs, on prevention of compensation claims was forwarded to the Railways, who were asked to implement the recommendations made in respect of railway working.

Similarly the Ministry of Home Affairs addressed the State Governments to ensure implementation of the recommendations in regard to the State Civil and Railway Police.

Some of the more important measures adopted and/or continued by the Railways for the prevention of claims are given below :—

(*a*) Periodical observance of 'Stop Rough Handling' and "PLM Check Up" weeks by arranging spot checks at stations, marshalling yards, goods sheds, transhipment sheds and parcel offices with a view to an increasing emphasis being laid on ensuring proper packing, labelling and marking of packages and in order to impress on all concerned the importance of basic precautions in the prevention of claims.

(*b*) Insistance on the provision of dunnage in respect of despatches of sugar and foodgrains.

(*c*) Improved method of loading foodgrains to avoid losses due to bleeding.

(*d*) More extensive use of Ellis patent locks on wagons containing valuable commodities between selected points on all Broad gauge Railways.

(*e*) Strengthening and reorganizing the Watch and Ward Force, since designated as Railway Security Force.

(*f*) Maintenance of close liaison between Railway Security Force, Government Railway Police and State Civil Police at a sufficiently high level through the Chief Security Officer posted on each Railway in direct administrative control of the reorganised Railway Security Force.

(*g*) Intensification of the drive to connect consignments in wagon loads and in smalls lying unconnected at stations and Lost Property Offices.

The total amount paid towards compensation claims recorded a decrease from Rs. 2,89,22,804 in 1953-4 to Rs. 2,55,45,116 in 1954-5, and it gives an indication of the extent of success achieved.

70. Ticketless travel.—Intensive drives continued to be carried out against ticketless travel both by the normal ticket-checking arrangements and by the specially selected squads of ticket-checking staff with the assistance of the Special Railway Magistrates functioning in several States.

In addition, the following further steps were also taken for intensifying the effort against ticketless travel:—

(i) On the recommendation of the Railway Delegation to Soviet Russia and other European countries, the experiment of providing a Travelling Ticket Examiner for every two coaches on certain important long-distance trains was initiated.

(ii) On the suburban sections of the Southern and Central Railways and also on the Kalyan-Poona Section of the Central Railway, a system of ticket checking by Travelling Ticket Examiners in plain clothes was introduced. This device has been adopted, to get the measure of the habitual ticketless travellers, unauthorized vendors and beggars who successfully evade the normal checking staff in uniforms.

(iii) The Members of the National Railway Users' Consultative Council were authorized to call upon any Station Master or Ticket Examiner to check the tickets of passengers in their presence.

The number of passengers detected travelling without proper passes or tickets and the amount realized as excess fare charges during the year under review were 7,586,808 and Rs. 1,45,75,507 respectively, as against 6,957,255 and Rs. 1,40,58,531 respectively in the previous financial year. This, to some extent, reflects the more intensive nature of the checks exercised.

71. *Mela* traffic.—Necessary arrangements were made, as and when required, to clear the additional traffic on the occasions of *melas* and fairs. The composition of the daily train services was strengthened and special trains were also run, within the available resources. Extra booking offices and windows were also opened at stations concerned and the usual arrangements made for sanitation, water supply, etc.

The important *melas* which were held during the year under review were:—

(i) Solar Eclipse Fair at Kurukshetra (Northern Railway) from 28 June 1954 to 4 July 1954; principal day being 30 June 1954.

(ii) Kartiki *Mela* at Garhmuktesar (Northern Railway) from 4 November 1954 to 14 November 1954; the principal day being 10 November 1954; and

(iii) Sonepore Fair (North-Eastern Railway) from 7 November 1954 to 20 November 1954; the principal day being 10 November 1954.

89,125 and 146 special trains, respectively, were run in order to cater to the additional traffic on account of the above-mentioned *melas*. Besides, during the Sonepore Fair, eight additional steamer services were also operated to clear the rush of traffic.

72. Measures to ensure civility and assistance on the part of the Railway staff in their dealings with the public.—The necessity for being courteous and civil to the public at all times was impressed on the staff through the medium of the railway gazettes and by issuing suitable posters and arranging "Courtesy Weeks". Further, special lectures on "Courtesy and Civility to the Public" are being given to new entrants passing through Railway Training Schools.

Prompt cognizance continued to be taken of all complaints under this head and adequate action taken against the railway staff in all proved cases of discourteous conduct.

73. Measures taken to foster tourist traffic.—Several avenues were explored to foster tourist traffic both overseas and inland.

New retiring rooms were provided at Kanpur, Wardha, Gaya Bhubaneswar and Mathura while improvements in the existing retiring rooms were carried out at Trichinopoly and Madura.

In this context an important feature is the extension of the Railway Hotel at Aurangabad by another wing consisting of four double and four single rooms at a cost of about Rs. 1,25,000. It is under construction and expected to be completed in 1955-6. The additional accommodation which will thus be provided will go a long way towards meeting the present unsatisfied demand for accommodation at this important tourist centre.

During the year air-conditioned accommodation was provided on 28 Broad gauge and 4 Metre gauge trains as against 24 Broad gauge trains during the previous year. Air-conditioned accommodation is proposed to be provided on more and more trains as additional coaches become available.

Mention has already been made of the special concessions to attract traffic to Kashmir under paragraph 63 (on alterations in rates and fares) earlier. With a view to encouraging traffic to Kashmir, rail-*cum*-road and rail-*cum*-air return tickets were issued from 1 April 1954 to 31 October 1954 at $1\frac{1}{3}$ single journey fares for First, Second and Inter classes and $1\frac{1}{2}$ single journey fares for Third class over the rail portion. These tickets were available for 3 months from the date of issue.

Regional Tourist Advisory Committees on which Railways are also represented have been set up by the Ministry of Transport at Bombay, Madras and Calcutta and at other tourist centres. These Committees consider measures for the improvement and development of facilities for tourists.

Instructions have been issued to Railways to ensure that the Railway bookstalls display properly and keep for sale an adequate stock of tourist literature.

CHAPTER IV

NEW CONSTRUCTION AND ENGINEERING WORKS

74. Capital expenditure.—At the end of March 1955, the total capital-at-charge of all railways, including lines under construction, amounted to Rs. 910·91 crores, of which Rs. 901·58 crores represented the capital-at-charge of Indian Government Railways, inclusive of the premia paid on the purchase of certain Companies. The balance of Rs. 9·33 crores was the capital raised by the Companies and District Boards.

The figure of capital-at-charge of Indian Government Railways which is still provisional, pending closing of the pre-partition accounts and finalization of the balances brought forward on 1 April 1950 in case of ex-States' Railways, comprises the following items:

	£
Liability and debt incurred in the purchase of railways	131,164,798
Less liability and debt cancelled by the operation of annuities and sinking funds	23,756,284
Net amount outstanding	107,408,514
	Rs.
Direct expenditure by Government (in thousands)	752,41,57
Amount in sterling converted into rupees (in thousands)	149,16,87*
Grand Total	901,58,44

By far the greater portion of this amount, namely, Rs. 900,74,97 (thousands) is Government Capital and only a sum of Rs. 83,47 (thousands) is owned by District Boards.

The total capital outlay on all railways during 1954-5 was Rs. 32·41 crores of which Rs. 32·25 crores related to Indian Government Railways.

The distribution of the capital outlay in 1954-5 over the different Indian Government Railways is shown in the following statement:

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1954-5

(Figures in lakhs of rupees)

Railways	Open lines			New Constructions			GRAND TOTAL
	Works	Rolling stock	Total	Works	Rolling stock	Total	
(1) Central	—92	5,24	4,32	—2	..	—2	4,30
(2) Eastern	95	2,80	3,75	27	..	27	4,02
(3) Northern (Commercial)	1,90	1,21	3,11	1	..	1	3,12
Northern (Strategic)	21	1	22	1	..	1	23
(4) North Eastern	1,23	5,09	6,32	6	..	6	6,38
(5) Southern	75	5,24	5,99	24	..	24	6,23
(6) Western	39	3,65	4,04	23	1	24	4,28
(7) Chittaranjan Locomotive Works	9	..	9	..	..	..	9
(8) Integral Coach Factory	2,07	..	2,07	..	..	..	2,07
(9) Ganga Bridge Project	..	..	..	94	..	94	94
(10) Calcutta Electric Project	..	..	..	11	..	11	11
(11) Miscellaneous (Railway Board)	48	..	48	..	..	..	48
TOTAL	7,15	23,24	30,39	1,85	1	1,86	32,25

* The amounts £2,575,000, £2,000,000, £1,500,000 and £1,000,000 representing the share capital respectively of the Great Indian Peninsula, the Bombay Baroda and Central India, the Madras and Southern Maharatta and South Indian Railways (the first two amounts being paid off during 1925-6 and 1941-2 respectively, and the last two during 1944-5) have been converted at the appropriate average rates of exchange for those years and the balance of £100,333,514 at the rate of 1s. 6d. to the rupee.

75. Mileage of lines opened during 1954-5.—The following lines representing an addition of 324·39 miles were opened during the year:

Railway	NAME OF LINE — New Lines	Mileage
Central	Kurla Trombay Arterial Siding	4·20
Northern	Chunar-Robertsganj-Churk	50·32
"	Nizam-ud-Din-Safdarjang	4·64
North Eastern	Dauram-Madhepura-Murliganj	13·43
Western	Rajkot Town-Rajkot Junction	4·48
"	Realignment of entry at Dhola Junction	3·38
"	Gandhidham-Kandla	6·67
"	Gandhidham-Anjar	10·05
	Restoration of Dismantled lines	
Eastern	Bhagalpur-Mandar Hill	31·07
"	Sini-Gomharria	0·26
Northern	Unnao-Madhoganj portion of Unnao-Madhoganj-Balamau line	47·88
"	Nagrota-Jogindernagar	34·06
"	Sultanpur-Zafarabad portion of Utraitia-Sultanpur-Zafarabad line	57·24
Southern	Angadipuram-Nilambur portion of Shoranur-Nilambur line	23·93
"	Usilampatti-Bodinayakanur portion of Madura-Bodinayakanur line	32·78
	Total	324·39

76. Lines under construction during 1954-5.—The undermentioned lines totalling 488·83 miles were under construction during the year:

Railway	NAME OF LINE — New Lines	Mileage
Central	Khandwa-Hingoli	187·23
Eastern	Champa-Korba Coalfields	24·50
"	Sini-Gomharria, Anara-Garhdhrubeswar and Chandipahar-Burnpur	33·50
Northern	Pathankot-Madhopur	9·53
"	Utraitia-Dilkusha	5·32
Southern	Quilon-Ernakulam	96·55
Western	Gandhidham-New Kandla	7·51
"	Gop-Katkola	20·35
"	Anjar-Bhuj	25·12
	Restoration of Dismantled lines	
Northern	Utraitia-Sultanpur portion of Utraitia-Sultanpur-Zafarabad line	79·22
	Total	488·83

77. Lines closed during 1954-5.—The undermentioned two narrow gauge lines totalling 19·21 miles were closed during the year 1954-5:

Railway		*Mileage*
Western	(1) Adipur-Tuna	7·57
,,	(2) Warsamedi-Kandla	11·64
	Total	19·21

78. New Surveys.—Surveys for nine projects were sanctioned during the year as per details given below:

Railway	*Gauge*	*Approximate mileage*
Eastern		
(i) Noamundi-Bhadrasai (Final location survey)	B.G.	18
(ii) Sambalpur-Titilagarh (Traffic survey)	B.G.	111
Northern		
(i) Pathankot-Madhopur (Final location and traffic surveys)	B.G.	8
(ii) Madhopur-Kathua (Preliminary engineering and traffic surveys)	B.G.	7
North Eastern		
(i) Rail connection to serve Garo Coalfields (Traffic survey)		
(*a*) Darangiri-Amjanga-Pandu	M.G.	100
(*b*) Darangiri-Dudhnai - Goalpara - Ferry - Jogighope-Bongaigaon	M.G.	90
(*c*) Darangiri to a reasonable stable point on the bank of the River Brahmaputra by direct route	M.G.	53
(ii) Ramshai-Binnaguri (Preliminary engineering survey)	M.G.	20
Southern		
Bangalore-Salem (Traffic survey)	B.G./M.G.	124
Western		
(i) Bhaili-Bhadran and Sojitra-Dholka Projects (Traffic survey)	M.G.	62
(ii) Indore-Dewas-Ujjain (Final location survey)	B.G.	50

79. Damage caused to Railways by floods and cyclones.—The following table gives the extent and character of the more important damages caused by floods and cyclones during the year. The damages were mainly due to heavy rainfall.

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication		Total approximate cost of repairs to damages
			Hrs.	*Mts.*	Rs.
	Central Railway				
Mudkhed-Adilabad	Due to unprecedented downpour of rain, formation scoured at places between miles 36/8 and 36/9, 38/0 and 38/14 and 35/14 and 36/16, bank was scoured to length of 578′ between mileages 36/4 and 36/6, approach bank next to the abutment of 3-10 girder bridge No. 60 was washed away for a length of 12′ and depth of 9′ at mile 36/6-7.	19-6-1954 and 20-6-1954	22	05	1,500
,,	Due to heavy rain burst murrum boxing at several places was washed away and the bank was also partially scoured at several places. Heavy slips also occurred in cuttings.	9-7-1954	35	15	1,000
Dornakal-Bezwada	Due to excessive rain, water overflowed track at miles 267/5-6, 269/16, 270/2, 271/13-14 and 279/14-15 between Papatapalli and Khammameth and formation washed away.	10-7-1954	16	45	4,500
Lahavit-Deolali	Due to heavy rain, the embankment at miles 106/12-14 slipped and the formation and track subsided causing derailment of 14 wagons.	1-9-1954	*Nil*	..	22,724

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication		Total approximate cost of repairs to damages
			Hrs.	*Mts.*	Rs.
Vikarabad-Purli-Vaijnath	Due to heavy rain, water overflowed the track between miles 112/3-16 and miles 112/4-13 and the embankment was washed away.	27-9-1954 and 28-9-1954			14,000
,,	Due to heavy rain, both approaches to bridge No. 182 were washed away for lengths of 185′ and 205′ and the flood water scoured the ground heavily behind the abutments.	27-9-1954 and 28-9-1954	190	30	44,800
,,	Due to heavy rain, catchment of the Manjira river bridge rose up to a height of 4′ below the 60′ span girder and scoured the north approach.	27-9-1954			18,000
Secunderabad-Kazipet	Due to heavy floods, Yeshwantpur nulla collapsed due to piers having been washed away at miles 174/4-5.	27-9-1954			11,000 for restoration and for rebuilding bridge the approximate cost is Rs. 9·50 lakhs
,,	Due to heavy rain, the bund on the north side track at miles 17/13-14 breached resulting in two scours on the down stream side.	27-9-1954	304	..	800
,,	Due to heavy rains, the Alir river flooded the Alir station yard.	27-9-1954			300
,,	As a result of heavy rain, ballast was washed away at miles, 147/5-7 over a length of about 500′ due to ½′ arch culvert No. 334 being unable to pass the flood.	27-9-1954			200
,,	Due to heavy rain the east approach bridge No. 336, was breached to an extent of 166′ in length and 25′ deep leaving the track hanging over the gap at miles 163/13—14.	27-9-1954	..	..	16,000
,,	As a result of heavy rain the embankment at miles 143/13-14 was breached for a length of 30′ due to bridge No. 322 being unable to pass the flood.	29-9-1954			400
Kazipet-Bezwada	Due to abnormal rains, the track at miles 317/18 to 318/1 subsided by nearly 2′ over a length of 40′.	27-9-1954	20	25	500
	Eastern Railway				
Adra	(1) Storm damage to staff quarters at Anara .	..	..	..	10,000
	(2) Storm damage to staff quarters at Bhojudih				7,000
	(3) Storm damage to the school building at Bhojudih.	..	..	..	2,000
	(4) Storm damage to the pavillion at Bhojudih		..	..	3,000
	(5) Storm damage to the Loco Shed at Bhojudih.	..	..	..	1,000
	(6) Storm damage to the staff quarters at Bhaga.	..	..	..	1,000
	(7) Storm damage to the staff quarters at Damodar.	..	..	..	4,000
Bilaspur	(1) Storm damage to the staff quarters at Kirodimal Nagar.	..	..	..	5,200
	North Eastern Railway				
Ghograpar-Rangiya	Dip at mile 238/15-18 overflowed	25-7-1954	5 days		
,,	19″ water passed through Irish Bridge	23-8-1954	2 ,,		
Nalbari-Ghograpar	Miles 232/G-231/23 bank cut by villagers	23-8-1954	2 ,,		
,,	24″ water over rails	23-8-1954	21 ,,		*Nil*
Pathsala-Sorupeta	At mile 208/14-15, 10″ water above rail level on Irish Bridge.	23-8-1954	2 ,,		
,,	At mile 206/1-5, 15″ water above Irish Bridge	23-8-1954	2 ,,		
,,	Bridge No. 207 scoured	27-7-1954	2 ,,		
,,	Bridge No. 207 scoured, approaches sunk	23-8-1954	4 ,,		500
,,	16″ water above rail level on Irish Bridge	26-7-1954	3 ,,		*Nil*
,,	Bridge No. 209 east Down-stream side scoured	24-8-1954	6 ,,		5,000
,,	Bridge No. 206 abutment badly tilted.	24-8-1954	6 ,,		20,000
Barpeta-Sorbhog	14″ water above rail level	26-7-1954	2 ,,		*Nil*
Patiladaha-Bijni	Bridge No. 183 East abutment washed away	23-7-1954	10 ,,		9,400
Bijni-Chapraka[t]a	At mile 175/176 water level rose 6″ above danger point.	27-7-1954	2 ,,		*Nil*
,,	At mile 176/1-4 bank breached by 560′	23-8-1954	23 ,,		
,,	Head of right guide bund of Aie Bridge eroded	29-9-1954	28 ,,		5,88,100
Jorai-Kamakhyaguri	Bridge No. 312 washed away	28-7-1954	12 ,,		51,700
,,	Ballast washed away at mile 117/8-14	28-7-1954	12 ,,		11,400
,,	Bridge No. 307 both abutments washed away	27-7-1954	13 ,,		22,400
Kamakhyaguri-Samuktala.	Bridge No. 289 damaged	25-7-1954	9 ,,		19,800
Hasimara-Hamiltonganj	Hamilton Jhora Bridge East Bank washed away.	23-8-1954	12 ,,		1,36,564
,,	Hamilton Jhora Bridge sleeper crib of the diversion washed away.	29-9-1954	15 ,,		1,39,478
,,	Mile 84/19-20 bank washed away	23-8-1954	13 ,,		1,33,687

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication	Total approximate cost of repairs to damages
				Rs.
Hasimara-Madarihat	Torsa Bridge badly damaged	23-8-1954	32 days	7,76,148
,,	Hollong Bridge both guide bund washed away	28-7-1954	47 ,,	6,02,955
,,	Mile 77/2-4 breached .	23-8-1954	23 ,,	1,06,664
,,	Mile 76/23-24 breached	23-8-1954	23 ,,	56,361
Dalgaon-Binnaguri	Right guide bund of Khanabharti Bridge washed away.	26-7-1954	26 ,,	1,59,019
,,	Bridge No. 139 washed away	24-8-1954	22 ,,	1,11,998
Chengmari-Banarhat	Three spans of Diana Bridge washed away	23-8-1954	34 ,,	5,22,773
Nagrakata-Chalsa	Right down stream sausage of Jaldaka Bridge washed away.	23-8-1954	81 ,,	8,34,763
,,	Pier No. 2 of Hathinallah Bridge washed away	23-8-1954	82 ,,	8,57,234
Mal-Chalsa	Bank at mile 33/12-13 out flanked Track at mile 33/16 damaged.	28-9-1954	23 ,,	76,159
,,	Neora Bridge left guide bund washed away .	28-7-1954	84 ,,	9,64,927
,,	Mal Bridge No. 81 damaged and bank breached	24-8-1954	81 ,,	4,32,065
,,	At mile 31/16-18 Mal river over topped the bank.	24-8-1954	81 ,,	
Damdim-Oodlabari	At mile 24/6-8 track damaged	23-8-1954	21 ,,	11,094
,,	Bridge No. 98 damaged	23-8-1954	23 ,,	91,008
,,	Track over topped at mile 23/20-22	24-8-1954	22 ,,	1,06,664
,,	Bank at mile 23/1 to 22/24 breached	28-7-1954	13 ,,	
,,	At mile 23/5 armoc culvert washed away Bank breached at mile 23/1-22/22.	23-8-1954	23 ,,	1,13,773
Oodlabari-Bagrakot	Bank at mile 22/13-15 breached	28-7-1954	13 ,,	
,,	Bank at mile 22/13-14 washed away	27-9-1954	8 ,,	
,,	At mile 22/8-9 main line washed away	24-8-1954	20 ,,	4,92,258
,,	Breaches occurred at mile 32/6-15	28-7-1954	11 ,,	
,,	Ditto	27-9-1954	10 ,,	
Sivok-Gulma	Sivok Khola left up stream guide bund washed away.	31-7-1954	9 ,,	39,225
,,	Bank washed away at several places	31-7-1954	9 ,,	78,470
Gulma-Siliguri	Bridge No. 1 at mile 0/15-16 damaged	28-7-1954	11 ,,	6,576
Matigara-Baghdogra	Hulia Nala Bridge damaged	28-7-1954	8 ,,	3,433
Adhikari-Galgalia	Track damaged at several places	28-7-1954	2 ,,	*
Dewanhat-Gitaldaha	Bank damaged at places	28-7-1954	94 ,,	4,200
Chalsa-Metelli	Slip occurred at mile 0/9 to 1/5	31-7-1954	10 ,,	289
Domohani-Maynaguri Road	At mile 24/3-4 and 24/15-16 breached	28-7-1954	82 ,,	35,229
Dalgaon-Majbat	Bank damaged and washed away at several places.	22-6-1954	8 ,,	500
,,	Ditto	1-9-1954	3 ,,	500
Sitamarhi-Riga	Bridge No. 68B damaged	27-7-1954	9 ,,	7,000
Sitamarhi-Rajapatti	Track scoured	27-7-1954	9 ,,	20,000
Parsaram-Supaul	Approaches of Bridge No. 14 out-flanked	28-7-1954	4 ,,	5,000
Methai-Dauram—Madhepura.	Track breached at places	29-7-1954	52 ,,	14,000
Badlaghat-Dhamarghat	Dhamara dip breached	1-8-1954	..	45,500
Lalkua-Kashipur	Ballast washed away due to heavy rain	19-8-1954	2 ,,	1,600
,,	Ditto	2-10-1954	3 ,,	300
Dudwa-Chandan Chowki	Water over flowed the track	11-7-1954	5 ,,	320
,,	Ditto	2-8-1954	2 ,,	*Nil*
,,	Ditto	3-10-1954	2 ,,	*Nil*
Dudwa-Kaurialaghat	Water overflowed the track	1-8-1954	2 ,,	2,850
,,	Ditto	14-8-1954	19 ,,	
Siswabazar-Khada	Bridge Nos. 27, 28, 29 and 30 damaged	28-7-1954	3 ,,	50,000
Khada-Chhitauni	M/187/10-14 declared unsafe due to rapid cutting parallel to track.	11-8-1954	28 ,,	
Dholi-Silout	2 piers of Bridge No. 79 at mile 38/10—41/2 washed away.	7-9-1954	19 ,,	15,000
Jainti	Kutcha quarters and service buildings damaged.	12-4-1954	..	475
Bongaigaon	Kutcha quarters were damaged	18-4-1954	..	9,400
,,	Kutcha quarters and semipucca quarters were damaged.	23-4-1954	..	10
,,	Kutcha quarters were damaged	12-5-1954	..	5,010

* Included against Chalsa—Metelli.

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication	Total approximate cost of repairs to damages
				Rs.
Rangiya	Kutcha quarters were damaged	13-5-1954	..	1,000
Tindharia	Kutcha quarters were damaged	10-5-1954	..	2,558
Makum Junction	Quarters damaged	4-4-1954	..	5,800
Sibsagar	Kutcha quarters were damaged	14-4-1954	..	500
Simaluguri	Staff quarters were damaged	15-4-1954	..	1,050
Moranhat	Kutcha quarters were damaged	13-5-1954	..	3,350
Nazira	Staff quarters were damaged	31-5-1954	..	2,850
Chanpatia-Bettiah	Passenger train No. 344 Dn. derailed	2-5-1954	..	83,200
	Northern Railway			
Jullundur City-Mukerian-Pathankot.	Railway track between miles 25/13 to 34/22 was breached at 16 places.	19-7-1954	19-7-1954 to 28-7-1954	12,500
Pathankot-Jogindernagar	Abutment and retaining wall of Googli Bridge No. 970 at mile 101/5-6 was completely washed away.	19-8-1954	19-8-1954 to 23-8-1954	4,579
Ferozepore City-Fazilka	Railway track at mile 119/6-3 was breached	25-9-1954	25-9-1954 to 27-9-1954	2,038
Jullunder Cantt. Hoshiarpur.	Bridge No. 57 at mile 11/4 was closed by S.D.O. Canal to save the nearby villages as a result of which water was accumulated at mile 11/2 to 11/4 which overflowed and rendered the track unsafe.	26-9-1954	26-9-1954 to 27-9-1954	350
Amritsar-Dera Baba Nanak.	Railway track at mile 24/3 to 25/3 was badly damaged and breached.	26-9-1954	26-9-1954 to 11-10-1954	12,263
Ambala-Kalka Mile 151/18 to 152/5 between Chandigarh and Chandi Mandir.	Due to heavy rain on the night of 7/8-9-1954 bunds in the fields situated in the area got breached and borrow pits to which the catch water drain was connected had got silted resulting in flow of water towards the cutting. The water over topped the catch water drain and made cuts so that all the water from the fields began to discharge into the railway cutting. The level rose about 2-6″ above the rail under the road over-bridge resulting in the erosing of the formation at 8 places, the maximum erosion being 28-6″ below the sleepers.	7/8-9-1954	All passenger trains were passed *via* old alignment without touching Chandigarh Station.	*Nil*
Lhaksar Junction-Dehra Dun.	Bund washed away at mile 29/17-18 between Kansrao and Raiwala.	14-8-1954	About 6 Hrs.	4,000 (for both)
,,	Ditto	15-8-1954	About 2 Hrs.	
Moradabad-Chandausi	East and West Guide bunds of Bridge No. 36 were scoured.	24-8-1954	*Nil*	2,400
	Western Railway			
Billimora-Dungri	Due to excessive rain, culvert No. 344 and 343 between Ralimore-Dungri Mile 130/20 to 131/2 over-flooded.	2-7-1954	From 10 hrs. on 2-7-1954 to 7 hrs. on 3-7-1954, *i.e.*, about 21 hrs.	4,000
Dungri-Bulsar	Due to excessive rain bank between mile 128/5-6 near bridge No. 339 slipped.	2-7-1954	From 12-00 hrs. to 5-15 hrs. on 3-7-1954 *i.e.*, 17 hrs. and 15 minutes.	15,000
Bulsar-Pardi	Due to excessive rain, near Bharmpur Level Crossing gate between 123/5-6 Up line and mile 119/17 Dn. line, bank washed away.	2-7-1954	From 9-40 hrs. on 2-7-1954 to 19-30 hrs. on 3-7-1954, *i.e.*, 33 hrs. and 50 minutes.	*Nil*
Sindkheda-Nardana	Due to unexpected heavy rain, temporary diversion on Burai River at mile 131/4-6 was damaged for a length of 150′ on both the approaches of the temporary cribs.	27-1-1955	From 19-00 hrs. on 27-1-1955 to 11-00 hrs. on 29-1-1955, *i.e.*, 40 hrs.	800
Udhna-Sayan	Due to very heavy rains, banks of the Up and Dn. Main lines (1) between Udhna and Surat (2) between Surat and Utran (3) between Utran and Sayan, sunk and slipped at several places.	5-9-1954 and 6-9-1954	*Nil*	6,500
Broach Ankleshwar	Due to very heavy rains, banks of the Up and Dn. Main lines sunk and slipped at several places.	5-9-1954 and 6-9-1954	*Nil*	26,500
Bhatpur-Ghantoli	Due to very heavy floods in Heran River, bridge No. 41 (4 × 24 ft. 6 inches arch, 2 × 60′ GB. and 1 × 120′-6″ GB) at mile 11/16 to 12/10 was considerably damaged.	30-9-1954	From 9-15 hrs. on 30-9-54 to 11-05 hrs. on 3-10-54, *i.e.*, 3 days, 1 hrs. and 40 minutes.	3,500
,,	Due to heavy floods in Mahi River through communication was interrupted.	16-7-1954 17-7-1954 6-9-1954 7-9-1954 9-9-1954 and 15-9-1954	From 12-10 hrs. of 16-7-54 to 11-50 hrs. of 17-7-54, 3 hrs. of 6-9-54 to 10-00 hrs. 7-9-54 and 14-30 hrs. of 9-9-54 to 8-00 hrs. of 15-9-1954.	*Nil*
Tordi Sagar & Kukar	Due to heavy rains the track at mile 54/17 to 55/4, 57/1 to 57/4 and 60/14-17 between Tordi Sagar and Kukar were breached.	10-7-1954	From 18-30 hrs. on 10-7-54 to 13 hrs. on 13-7-1954.	7,500
Kandla Deesa Section	Due to heavy rains the line at mile 132/8 to 132/17 between Kidianagar and Bhutakia Bhimasar, was breached in a length of 50 ft. and damaged the track.	8-8-1954	From 17 hrs. on 8-8-54 to 20-44 hrs. on 8-8-54.	700

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication	Total approximate cost of repairs to damages
				Rs.
Nim-ka-Thana & Kanwat	Due to heavy rains the Railway track at mile 118/3-4 between Nim-ka-Thana and Kanwat breached in a length of about 60 ft.	21-9-1954	From 17-30 hrs. on 21-9-54 to 11-30 hrs. on 22-9-1954.	..
Kandla Deesa Section	Due to heavy rains for about 3 hours, the line at miles 50/21-22 and 51/3-8 between Deodar and Bhabhar was breached for about 75 ft. and earth washed away.	6-9-1954	4 hours	700
Talala-Delvada	Due to heavy rain and flood, line between Jambur and Prachi Road between mile 26/16 to 27/2 washed away .	12-7-1954	13-45 hours	5,000
Kanalus-Gop	Due to heavy rain, line between Debasang and Lalpurjam between mile 8/8-9 and 9/9-12 washed away.	13-7-1954	24-55 hrs.	3,500
Khambhalia-Salaya	Due to heavy rain, line between Khambhalia and Salaya washed away.	11-7-1954	64-10 hours	5,000
Rajkot-Okha	Due to heavy rain, line between Kakhabaval and Jamnagar between mile 206/7 and 206/9 washed away.	9-8-1954	7-30 hours	900
	Southern Railway			
Ellore	Due to heavy rain and floods breaches occurred at mile 320/12-13 between Pulla and Kaikaram and between mile 327/10 and 328/19 between Unguturu and Badampudy, N.E. line, Bank has been scoured in a number of places.	8-7-1954	4 days	Expenditure incurred up to 31-3-1955 is Rs. 17,391
Manapparai Section between Ayyalur and Kalpatti-chattram Mile Q 250/10-20.	Due to heavy rains, there were several erosions on the bank and the ballast was washed throughout the length Q. 250/12-15 due to rush of water and track itself was sunk at different places.	19-8-1954 22-8-1954 11-10-1954	3 Hrs. 24 Mts. 5 Hrs. 26 Mts. 3 Hrs. 40 Mts.	3,746
Donakonda-Bezwada	Due to heavy rain and breaching of nearby tanks water overflowed track at mile 487/14-16.	27-9-1954	17 Hrs.	500
Salem South	Due to heavy rains, earth and ballast was washed away in the loop lines at Mavelipalayam.	6-10-1954	No detention	2,758
Tirutturai-Pundi Section Mile M. 238/15 to 239/3 Adirampatnam.	The railway track over the causeway at mile M. 238/15 to 239/3 was flooded resulting in scours of ballast, level crossing at mile M. 238/18 was completely breached washing away earth.	20-10-1954	30 Hrs. 30 Mts.	1,500
Vriddhachalam Section	Due to heavy floods in Gadilam River the banks on both sides of Bridge No. 75 were badly damaged.	21-10-1954	No detention	6,400
Coonoor	Due to heavy rain slips of boulders have occurred at M.H. 5/8-9.	22-10-1954	3 Hours	1,500

80. Engineering Works.

Northern Railway—

Restoration of Nagrota--Jogindernagar line.—The restoration of this 35 mile long portion of Pathankot-Jogindernagar Narrow Gauge line which was dismantled during World War II for meeting urgent military demands of track material was commenced in October 1952 and has been restored and opened to traffic with effect from 15 April 1954. It was estimated to cost Rs. 44·95 lakhs.

Restoration of Utraitia-Sultanpur-Zafarabad Section.—Utraitia-Sultanpur-Zafarabad Section of Northern Railway, a length of 136 miles, on the Broad Gauge system was dismantled in 1942 for meeting urgent demands for track material during World War II. The restoration work was started in September 1953 at an estimated cost of Rs. 205·61 lakhs, 57 miles from Zafarabad to Sultanpur was opened for public traffic on 28 November 1954 while the remaining 79 miles from Sultanpur to Utraitia was expected to be opened in June 1955.

Restoration of Unnao-Madhoganj-Balamau line.—The restoration of 62 mile long Broad Gauge was authorised on 22 May 1951 and was estimated to cost Rs. 81·56 lakhs. 14 miles from Balamau to Madhoganj was opened for public traffic on 1 July 1953 and the remaining 48 miles from Madhoganj to Unnao on 5 September 1954.

Eastern Railway—

Restoration of Bhagalpur-Mandar Hill line.—The restoration of this 31·1 mile long Broad Gauge line was sanctioned on 2 December 1952 at an estimated cost of Rs. 61 lakhs. The line was first opened for traffic on

1 October 1911, but was dismantled during the First World War. It was relaid and opened to traffic on 1 October 1926 but was closed again in October 1941 to meet with the urgent military requirements of track material during the last World War. It has since been restored and opened to traffic with effect from 25 April 1954.

Southern Railway—

Restoration of Shoranur-Nilambur line.—The restoration of this 41·5 mile long Broad Gauge line was commenced on 20 May 1951 at an estimated cost of Rs. 63·5 lakhs. 17·5 miles from Shoranur to Angadipuram was opened for traffic on 16 April 1953 and the remaining portion of 23·9 miles from Angadipuram to Nilambur on 15 April 1954.

This line was first opened for public traffic on 26 October 1927 but was dismantled on 5 December 1940 to meet urgent war demands during the Second World War. The restoration of this line has been considered necessary for internal security purposes.

Restoration of Madura-Bodinayakanur line.—The restoration of this 51 mile long Metre Gauge line was sanctioned on 24 May 1951 at an estimated cost of Rs. 40·63 lakhs. 23 miles Madura-Usilampatti portion (including 5 miles not dismantled) was opened for public traffic on 10 September 1953 while the remaining portion consisting of about 33 miles from Usilampatti to Bodinayakanur on 25 July 1954.

The line was first opened for traffic on 20 November 1928 but was closed on 1 January 1942 owing to the fact that traffic was deteriorating. It was dismantled thereafter during the 2nd World War and has now been restored as desired by the Madras Government to open up the Cumbam Valley and to enable the transport of hill produce in Travancore.

Western Railway—

Fatehpur Churu Construction.—The construction of 26·3 mile long Metre Gauge line was commenced on 16 March 1955 and is estimated to cost about Rs. 49·65 lakhs. The construction of this line besides providing an alternative route between the Divisional Head Quarters of Rajasthan State and Jaipur, the Capital and to the land frontier with West Pakistan will also provide a quickest and shortest route between Jaipur and Churu Ratangarh and Sardarshahr. It is expected to be completed by March 1957.

North Eastern Railway—

Dauram-Madhepura—Murliganj Construction.—The construction of 14 mile long Metre Gauge line was sanctioned on 25 February 1953 at an estimated cost of Rs. 32 lakhs to close the existing gap between Madhepura and Murliganj on both sides of the river Kosi. This will provide an alternative means of communication for Dauram-Madhepura and Saharsa which are generally cut off by the flood water of the river Kosi.

The line was opened for public traffic on 20 July 1954.

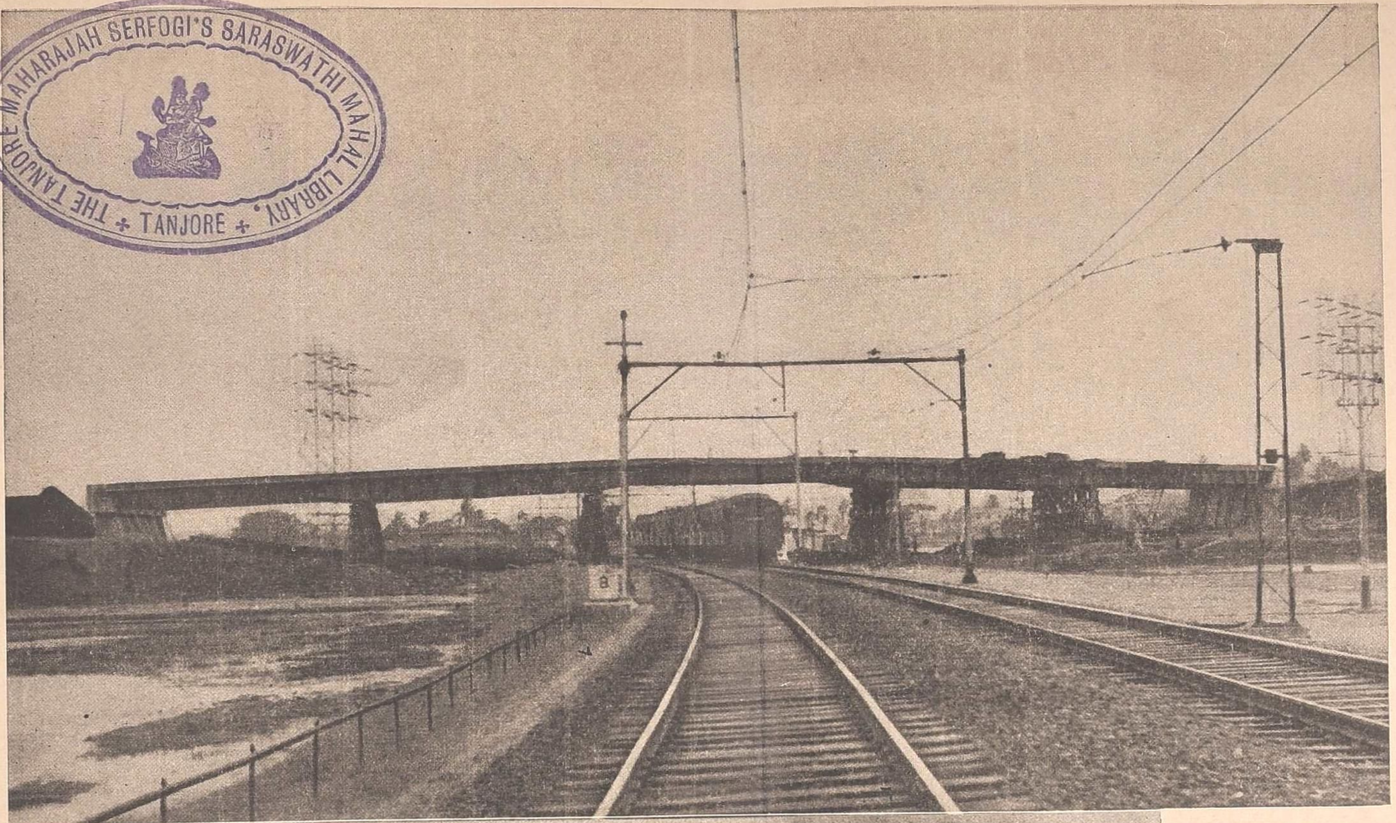
81. Open line works.

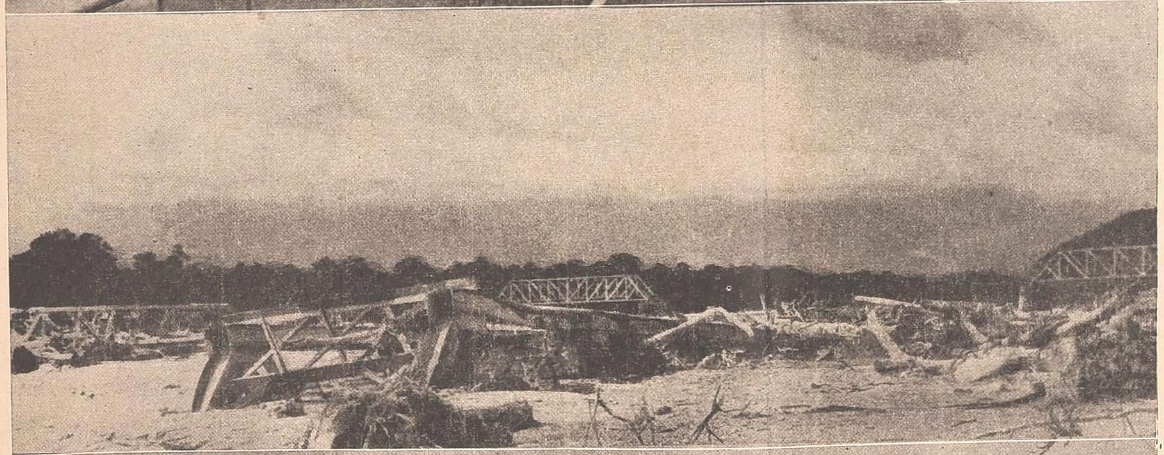
(a) *Remodelling of yards—*

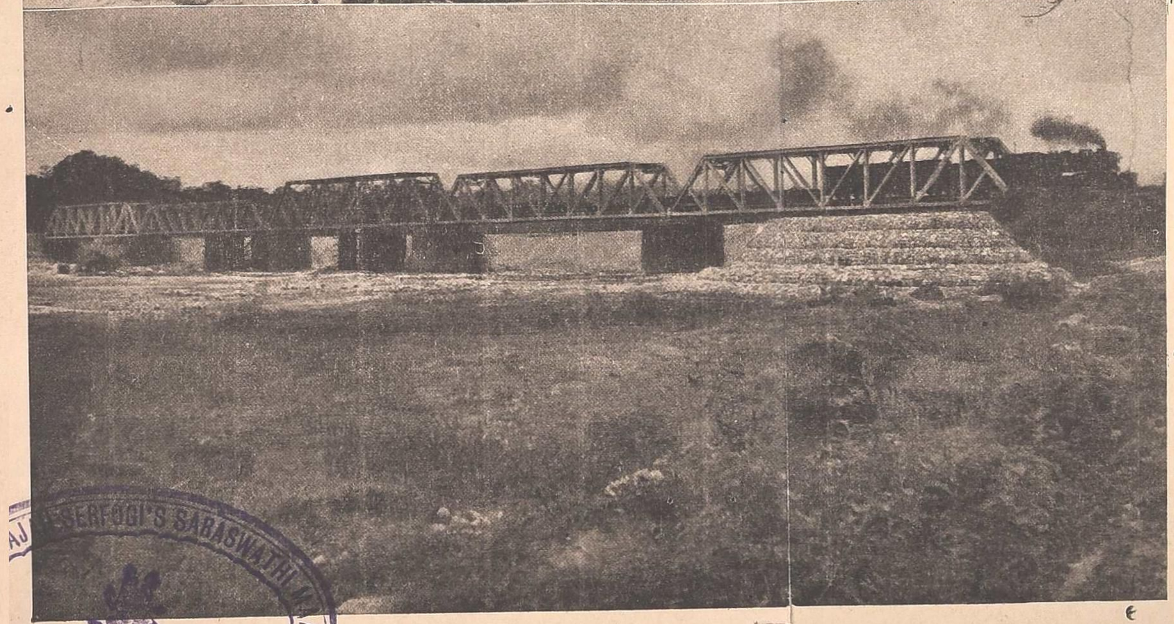
Southern Railway.—Bezwada Junction.

The present capacity of the Madras-Bezwada Section which is 300 wagons a day is hardly sufficient to meet the traffic offering. Additional carrying capacity would also be required to meet the needs of the increased agricultural, industrial and mineral developments envisaged in the First Five Year Plan. Accordingly, it has been decided to remodel the Bezwada Yard and an estimate amounting to Rs. 98·24 lakhs on account of the cost of the remodelling was sanctioned in July 1954, and it is expected that the capacity of the marshalling lines after remodelling will be 1,058 vehicles and the yard will be able to deal with 420 wagons per day.

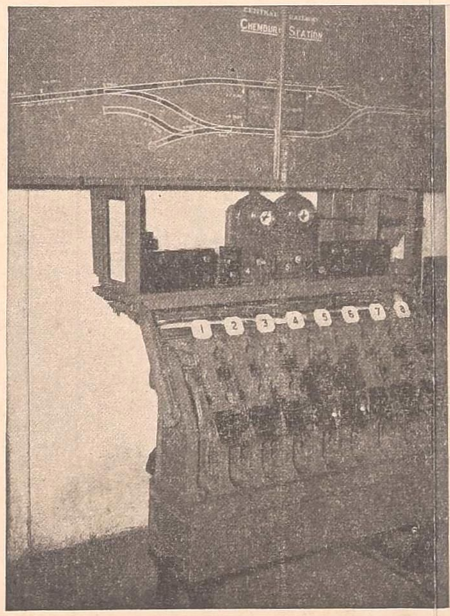
THE TANJORE MAHARAJAH SERFOGI'S SARASWATHI MAHAL LIBRARY, TANJORE

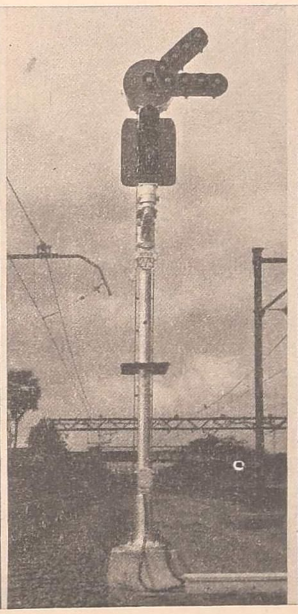


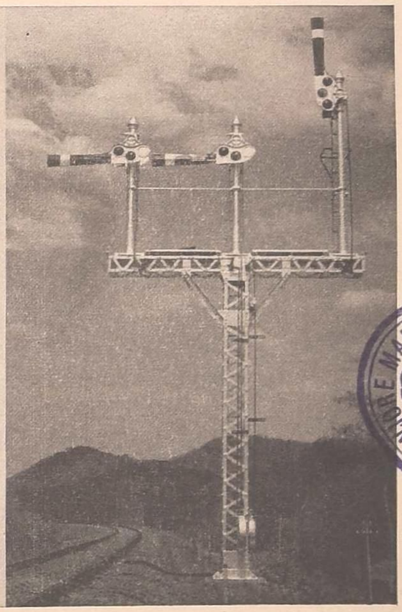




MAHARAJAH SERFOGI'S SARASWATHI MAHAL







Left:—
Top: STEEL WORK FOR THE ROAD BRIDGE FOR THE EASTERN EXPRESS HIGHWAY OVER THE HARBOUR BRANCH LINES OVERALL LENGTH 280 FT. BETWEEN ABUTMENTS. ALL STEEL WORK ERECTED IN POSITION.

HATHINALLAH VIEW OF GIRDER WASHED AWAY WITH BRIDGE IN THE BACK GROUND.

HATHINALLAH BRIDGE COMPLETED AFTER 1954 FLOOD.

A DARJEELING HIMALAYAN TRAIN PASSING THROUGH KURSEONG.

MINIATURE LEVER FRAME AND THE ILLUMINATED DIAGRAM INSTALLED AT CHEMBUR AS A PART OF THE FIRST INSTALLATION OF SINGLE LINE AUTOMATIC BLOCK SYSTEM IN THE CONTINENT.

A COLOUR LIGHT SIGNAL WITH 2-ARM JUNCTION DIRECTION INDICATOR, THE USE OF WHICH SETS UP A LAND MARK IN THE SIGNALLING DEVELOPMENT OF THE CENTRAL RAILWAY.

A 3-DOLL MULTIPLE ASPECT UPPER QUADRANT HOME SIGNAL USED AT KIRATGARH FOR THE FIRST TIME ON CENTRAL RAILWAY.

TANJORE MAHA

Western Railway.—Ratlam Yard.

Remodelling of the yard at Ratlam was considered necessary to provide for additional facilities for the reception, marshalling and despatch of trains without causing heavy detentions and to increase the efficiency of the entire movement on the broad gauge of the Western Railway. Accordingly an estimate amounting to Rs. 76·47 lakhs was sanctioned in August 1954 for remodelling of the yard at Ratlam.

Doubling of lines.—The single line between Ahmedabad and Kalol is almost full to capacity and there is hardly any scope for taking additional traffic. In order to meet the pressing public demand for more goods traffic and suburban passenger traffic, it has been decided to double the line. An estimate amounting to Rs. 96 lakhs was accordingly sanctioned in September 1954 for doubling the line between Ahmedabad and Kalol.

With a view to eliminating the bottle-neck between Dilkusha and Utraitia, it was decided to double the line on this Section of the Lucknow Division, for which an estimate amounting to Rs. 26 lakhs was sanctioned in January 1955.

In connection with expansion of steel works on the Eastern Railway, it was decided to undertake the work of doubling of the Rourkela Mancharpur Section of the Eastern Railway. An estimate amounting to Rs. 1,33·12 lakhs was sanctioned in February 1955.

82. Over-and Under-bridges constructed in replacement of level crossing.

Central Railway.—The work of conversion of 1 × 18′ arch road under-bridge on mile 73/17-18 north east main line into a skew girder bridge, road overbridge south of Kurla and construction of 1 × 100′ rail overbridge on Sion-Trombay Road at Kurla, were in progress, during 1954-5.

Eastern Railway.—A road overbridge was provided at Bhubaneswar in replacement of the level crossing situated at the south end of the railway station and an underbridge was provided at Khurda Road in replacement of level crossing situated across the station yard.

83. Important works.

1. *Integral Coach Factory, Perambur.*—The Standing Finance Committee for Railways had given their general approval in 1951 to the establishment of a coach-building factory with an installed capacity to manufacture 350 coaches per year working single shift. The cost was then estimated at about Rs. 3·8 crores. At a later stage, Government decided to proceed with the manufacture of the Schlieren-type coaches. Accordingly a revised estimate amounting to Rs. 7·35 crores was sanctioned in November 1954. Construction was under way and satisfactory progress was recorded during the year.

2. *Expansion of Loco Shops, Charbagh, Lucknow.*—The Charbagh shops were in need of extension and expansion consequent to the changes that have taken place in the functions carried out by these shops as a result of the regrouping of Railways. With a view to increasing the out-turn of P. O. H. of engines, modernization of Charbagh Loco Shops has been sanctioned at an estimated cost of Rs. 55·26 lakhs in June 1954.

3. *Electrification of Howrah-Burdwan* via *Bandel and Sheoraphuli-Tarakeswar Branch (All services), Eastern Railway.*—With the rapid industrialization of the country and the resultant pressure on the existing means of rail-transport, it has been found that steam traction in various regions would be unable to cope with the anticipated increase in the transport requirements. Where electrical energy is available at a reasonable rate, electrification offers a solution for the problem of removing the existing congestion and eliminating bottle-necks and of providing for future expansion.

Electrification of Calcutta Suburban Services has been given high priority and as a beginning, electrification of Howrah to Burdwan *via* main line and Sheoraphuli-Tarakeswar Branch on the Eastern Railway, a length

of 88 miles, has been sanctioned at an estimated cost of Rs. 11·84 crores. The work is in progress and is expected to be completed by the end of 1957.

Ganga Bridge Project.—A separate Project Administration under General Manager and Chief Engineer has been set up at Hathidah near the bridge site. The proposed rail-*cum*-road bridge consists of 14 Main Spans of 397 feet centre to centre of bearings each and four shore spans of 104 ft. 9 in. centre to centre of bearings each. The bridge will have a Broad gauge single line track up to M. L. Standard of loading on the lower deck and a 24 feet wide roadway with two footpath, each 6 feet wide on the upper deck. The roadway has been designed to carry A/AA Class of highway loading. The bridge, when completed, will replace the existing Metre gauge wagon ferry barge working at Mokameh Ghat. The abstract estimate amounting to Rs. 14·62 crores has been sanctioned for the Project. The cost of the bridge is to be jointly borne by the Railways and the Ministry of Transport (Road Organization) in the proportion of 60:40. World-wide tenders were invited for the construction of the main bridge and the contract has been let out to Messrs. Ganga Bridge Construction Co., Ltd., of Calcutta.

The actual construction is expected to be taken in hand in November 1955.

84. Bridge strengthening and protection programme.

The important items relating to bridges which were strengthened during the year 1954-5 or on which the work was in progress at the close of the year are given below:

Central Railway.—Providing a 2×15′ girder bridge at mile 179/14-15 on Secunderabad-Kazipet Section.

Strengthening of 1×30′ arch bridge by turning a 1×25′ arch under it at mile 291/17 on Akola Division—completed.

Re-building of 1×6′ girder at mile 584/2 was completed and 1×12′ girder at mile 577/4 was in progress.

Replacement of girders 1×14′ span at mile 3/6-7 and 1×8′ span at mile 5/30 at Chinchpokli-Parel-Curry Road sections (in progress).

Eastern Railway.—Strengthening of six bridges in the Howrah Division, nine bridges in the Asansol Division and 28 bridges on the Dinapore Division and one bridge in Chakardharpur District, five in Nagpur District and three in the Adra District were completed.

Strengthening of bridges over Kur, Himgir and Mand on Jharsuguda-Bilaspur Section and of two bridges over rivers Cossye and Subarnarekha on Adra-Sini Section to Main line standard was completed.

Strengthening of eight weak bridges on the Jharsuguda-Sambalpur Branch to the main line standard with a view to removing speed restrictions was well in progress.

Northern Railway.—Rebuilding new pier and renewing existing temporary Callender Hamilton span with two spans (1×60′ and 1×150′) of Gaj Bridge No. 214 at mile 33/1-3 on Kangra Valley Railway and providing protection work around piers No. 2 and 3 were completed.

Renewing defective rail girder spans providing bed plates and location strips and lateral bracings on certain bridges on Husainiwala—Bhatinda Section was nearly completed.

North Eastern Railway.—Extension and strengthening the protection and training works for 18 bridges including Mahananda, Chel, Hathinallah, Torsa and Aie bridges was completed.

Changing of weak girders of Rapti Bridge (9×150′) at mile 322/17 between Shahjanwa and Jagatbela by MG ML girders was nearly completed.

The balance 3×80′ spans on Kukra bridge (6×80′) at mile 316/23-317/1 had been received and the work of changing the girders was in progress.

8 bridges on the main line, 2 bridges on Cooch-Behar-Gitaldah Branch and 1 at Rangiya-Tezpur Branch were rebuilt to the MG ML standard in connection with the final restoration of breaches.

The sub-structure of the new Torsa (4 × 150′) bridge at mile 77/23 between Cooch-Behar and Dewanhat was completed and girders were on order.

Replacing of pile bridges No. 139, 81 and 305 on Rangiya-Rangapara Section was well in progress.

The girders at mile 374/2-3 and mile 551/19-20 were reconditioned and strengthened, while bridge at mile 561/17-23 was in progress.

Southern Railway—

Madras Region.—Rebuilding of bridge No. 150 at mile 316/19-20 between Bhimadol and Pulla and five bridges on the north-west line and 12 bridges in Shoranur District were completed, while the work of rebuilding of nine others was in progress.

Mysore Region.—The construction of a new bridge 4 × 30′ skew girder at chainage 6240 of siding from Munirabad to Dam site was in progress.

Western Railway—

Broad Gauge.—During the year the work of rebuilding five culverts was completed and 20 span of 60′ girders were reconditioned and strengthened to take 20-ton axle loads.

The work of providing a high level bridge over the Mahi river between Sevalia and Timba Road on Anand-Godhra section was completed and opened for traffic.

As a protective measure against corrosion due to salt, 54 spans out of 128 spans of 20′ were encased in cement concrete and gunited making a total of 90 spans completed.

Bridge No. 466 was rebuilt as it showed signs of failure.

Metre Gauge.—During the year, 1 × 5′ arch culvert at Ladpura was replaced by a 20′ spans girder and 2 × 20′ girder bridges were provided in replacement of 2 × 10′ span near Chrai.

The work of regirdering and reconditioning weak girders on five bridges of Junagadh District replacing by MG ML spans and providing CC bed blocks was completed.

The work of renewing 85 12′ span girders with MG ML type on Rajkot-Verawal and Porbandar-Dhasa Sections was in progress.

85. Permanent way renewals and welding of rail joints.

The amount provided for track renewal works for 1954-5 on different Railways is given below:

(Figures in thousands)

	Rs.
Central Railway—	
(a) Complete Track Renewals	1,64,11
(b) Rail Renewals	7,50
(c) Sleeper Renewals	7,00
(d) Ballast	22,36
Eastern Railway—	
(a) Complete Track Renewals	68,20
(b) Rail Renewals	61,45
(c) Sleeper Renewals	92,82
(d) Ballast	5,20
Northern Railway—	
(a) Complete Track Renewals	1,60,76
(b) Rail Renewals	21,34
(c) Sleeper Renewals	62,71
(d) Ballast	60

	(Figures in thousands) Rs.
North Eastern Railway—	
(*a*) Complete Track Renewals	47,03
(*b*) Rail Renewals	9,65
(*c*) Sleeper Renewals	36,20
(*d*) Ballast	1,91
Southern Railway—	
(*a*) Complete Track Renewals	1,04,45
(*b*) Rail Renewals	15,76
(*c*) Sleeper Renewals	58,14
(*d*) Ballast	1,65
Western Railway—	
(*a*) Complete Track Renewals	1,60,18
(*b*) Rail Renewals	22,41
(*c*) Sleeper Renewals	41,68
(*d*) Ballast	10,81

The track renewals carried out during the year on different railways are given below:

	B.G.	M.G.	N.G.
	Miles	Miles	Miles
Complete track renewals			
Central	117·873	9·16	7·68
Eastern	38·452	—	—
Northern	113·40	12·27	—
North Eastern	—	77·14	—
Southern	17·84	2·97	—
Western	40·35	80·00	2·00
Rail renewals			
Central	16·269	3·014	0·617
Eastern	8·00	—	29·00
Northern	15·10	2·00	—
North Eastern	—	7·57	5·00
Southern	5·55	5·41	—
Western	17·00	22·423	2·00
Sleeper renewals			
Central	23·172	—	—
Eastern	84·39	—	—
Northern	74·80	24·00	0·14
North Eastern	—	—	—
Southern	16·78	10·04	—
Western	—	19·5	—
Casual sleepers renewals			
	No.	No.	No.
Central	64,074	11,365	4,901
Eastern	—	—	—
Northern	—	100,000	—
North Eastern	500	454,587	—
Southern	179,791	322,345	11,965
Western	49,738	117,609	83,597

	B.G.	M.G.	N.G.
Ballast			
Central (c.ft.)	11,500,947	748,465	460,506
Eastern (c.ft.)	4,652,240	—	—
Northern (c.ft.)	580,800	—	—
North Eastern (c.ft.)	—	1,822,802	24,682
Southern (c.ft.)	823,476	2,084,108	—
Western (c.ft.)	—	575,188	—
Number of sleepers renewed during the year.	No.	No.	No.
Central—			
Wooden	36,263	7,002	2,063
Cast Iron	23,102	—	—
Steel	4,709	4,363	2,838
Eastern—			
Wooden	158,185	—	108,727
Cast Iron	87,390	—	—
Steel	71,538	—	22,127
Northern—			
Wooden	107,900	180,215	1,000
Cast Iron	226,197	—	—
Steel	51,823	4,413	228
North Eastern—			
Wooden	500	477,357	—
Cast Iron	—	—	—
Steel	—	132,149	—
Southern—			
Wooden	123,594	271,873	11,965
Cast Iron	110,501	16,834	—
Steel	13,921	55,848	—
Western—			
Wooden	37,859	145,604	83,597
Cast Iron	340	—	—
Steel	11,439	13,064	—

Welding of Rail Joints.

	No. of joints welded by Flush Butt Plant.	No. of joints welded by Thermit process.	Total length of track provided with welded rails during the year.
			Miles
Central	1,922	456	16·6
Eastern	—	—	—
Northern	3,497	3,998	8
North Eastern	—	—	—
Southern	—	—	—
Western	—	5,827	33

86. Wireless communication on Railways.—The performance of the Wireless communication on Railways was generally satisfactory during the year under review. The duplex Radio Telephony system has further been extended to five more wireless links on the Railways and it gave encouraging results. Further expansion of this system is in view.

New wireless stations were opened at the following places during the year:

Bhagalpur and Thana Bihpur on the North Eastern Railway to establish communication across the river.

Rewari to work with New Delhi and Bikaner.

Bilaspur to work with Calcutta and Khargpur.

The wireless link between Bhagalpur and Thana Bihpur is working on V.H.F., which is first of its kind to be brought into use on the Indian Railways. This Radio link proved to be very satisfactory and it is proposed to extend this system to other Railways also.

The other special feature of the year is the opening of Monitoring stations on two Railways to monitor traffic working as well as frequency checking. The opening of such stations on the remaining Railways is in progress.

Temporary fixed and mobile wireless stations were also brought into use on almost all the Railways to meet the casual requirements.

87. Improvement to line tele-communication on railways.—The normal working of the land line communication equipments on the Railways was satisfactory during the year.

In order to meet the increased telegraph and telephone traffic, the following additional Administrative Trunk, train control and telegraph traffic circuits or changes in the existing circuits have been made during the year:

Eastern Railway—

(i) Administrative Trunk lines between Nagpur-Nainpur and Nagbhir-Nainpur were brought into use.

(ii) Deputy Control circuit on the Waltair-Raipur Section was also brought into commission.

Northern Railway—

(i) Train wires on Nagrota-Jogindernagar Section of Ferozepur Division have been provided.

(ii) Train wires between Chunar-Churk on Allahabad Division have been brought into use.

(iii) One pair of control wires as "dummy" line between Lucknow-Faizabad and Lucknow-Unnao has been provided on Lucknow Division.

North Eastern Railway—

(i) The existing Trunk circuit between Lumding and Mariani was extended to Tinsukia.

(ii) An additional Trunk circuit was provided between Katihar and Thana Bihpur.

(iii) Additional control circuits were completed on the following Sections:

(*a*) Siliguri Town—Darjeeling.

(*b*) Captainganj—Chhitauni.

Southern Railway—

(i) Guntakal-Hindupur Section Control has been completed and brought into use.

(ii) The work in connection with the provision of section control over Madura-Virudhunagar-Shencottah-Quilon was completed up to Shencottah.

The following new telephone exchanges or changes in the existing exchanges have been carried out during the year:

Eastern Railway—

(i) A 20-line exchange was installed at Ranaghat.

(ii) A 70-line exchange board with a Central Battery system was opened at Gaya.

(iii) Four C.B. Exchanges for 400 lines together with Trunk Exchange were opened at Khargpur.

(iv) Three C. B. Exchanges for 230 lines were installed at Adra replacing the old Magneto Type Exchanges.

(v) A 40-line Exchange has been installed at Nagpur in place of a 20 line Magneto Exchange.

North Eastern Railway—

(i) A 50-line Auto Exchange was installed in Regional Office, Lucknow Junction.

(ii) A 50-line Auto Exchange was brought into commission in Mechanical Workshop, Gorakhpur.

(iii) The capacity of the existing switchboard at Gorakhpur was extended by the installation of an additional 100 line.

Northern Railway—

The old worn out exchange at Hazratganj has been replaced with a new (PBX) Exchange.

Southern Railway—

(i) A 25-line Automatic Exchange was installed at Mysore South connecting the various shops with the Works Manager and the Regional Offices.

(ii) The old 50-way Magneto Exchange at Mysore was replaced with a 10 *plus* 70-line Central Battery Telephone Exchange.

In addition to the above a sufficient number of old and worn out equipment was also replaced with new and the latest type of equipment to improve efficiency.

More flag and halt stations on controlled sections on various Railways were provided with control telephones during the year in order to provide communication with the adjacent block stations.

The scheme for providing public address equipments at important stations to relay information to the travelling public about the arrival and departure of the trains has been extended to some more important stations.

CHAPTER V

MECHANICAL AND ELECTRICAL ENGINEERING AND ROLLING-STOCK

88. Renewals and additions to equipment.

Locomotives.—The number of new locomotives ordered and placed on line during the year amounted to 112 and 327 respectively. These were distributed by gauges as follows:

	Broad	Metre	Narrow	Total
Number ordered	100	12	—	112
Number placed on line	222	77	28	327

The 100 broad gauge WG type locomotives were ordered through T.C.M. from the following countries:

Country of manufacture	Locos ordered No.
U. S. A.	50
Japan	25
U. K.	25

Orders for twelve metre gauge YM class locomotives were placed in Japan.

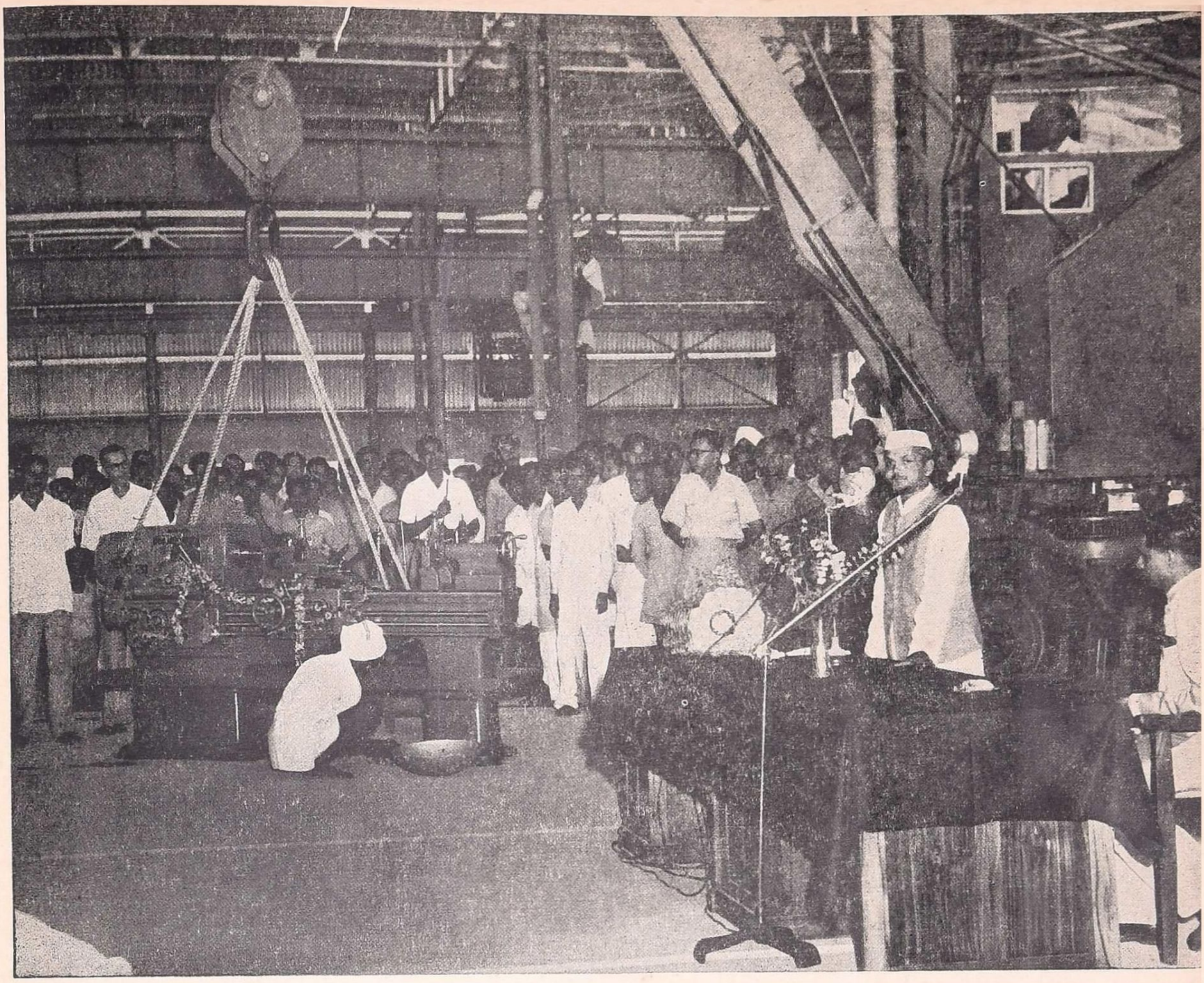
The delivery of all the broad gauge locomotives is expected to be completed by the end of the year 1955-6 and that of metre gauge locomotives by 1 August 1956.

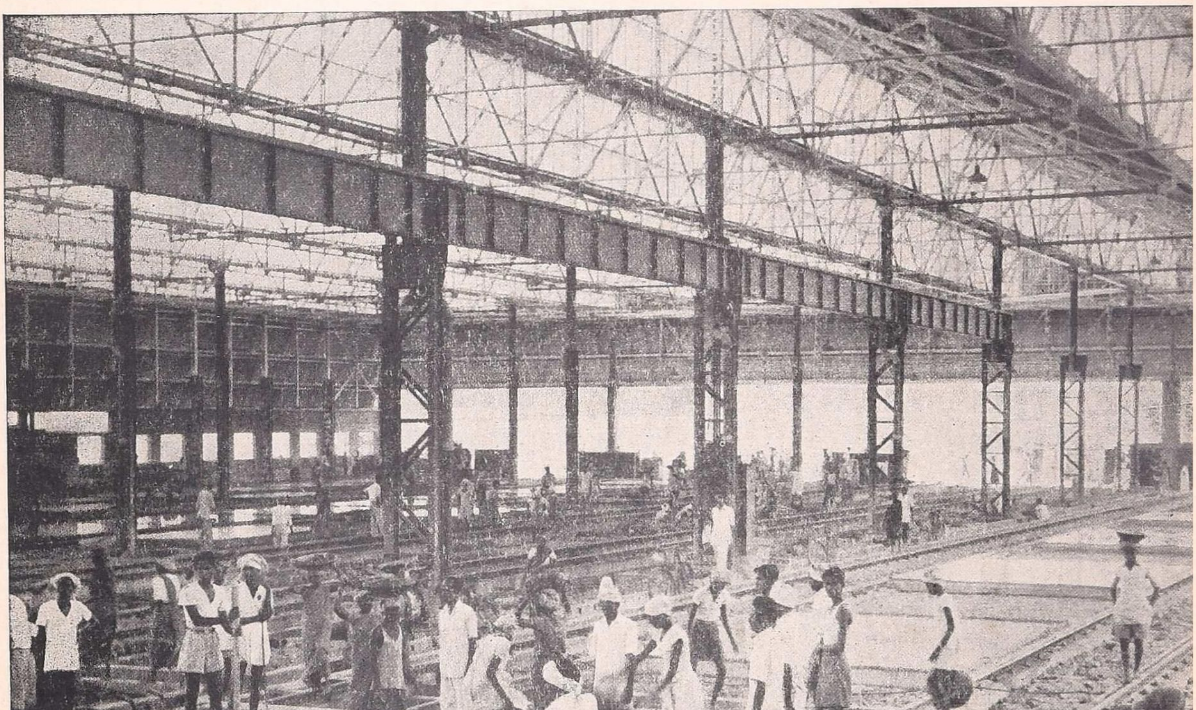
Coaching Stock.—(a) In addition to utilizing all the available carriage-building capacity in railway workshops, orders were placed on manufacturers for the supply of 230 broad gauge and 250 metre gauge coaching vehicles. The distribution of these orders for coaches was as follows:

	(Figures in units) Broad	Metre
Indigenous		
All-steel passenger coaches (III Class) fully furnished	180	—
All-steel passenger coaches (III Class) unfurnished	—	250
Foreign		
Electric multiple unit coaches	50	—

(b) 553 broad gauge, 404 metre gauge and 25 narrow gauge coaching vehicles were placed on line. Details of these vehicles are summarised below:

	Broad	Metre	(In units) Narrow
Manufactured in railway workshops			
Passenger coaches — Air-conditioned	18	12	—
Passenger coaches — Upper class	59	40	8
Passenger coaches — Lower class	133	176	17
Other coaching vehicles	35	58	—
Manufactured at Hindustan Aircraft Ltd.			
All-steel passenger coaches (Class III)	163	—	—
Constructed by other Indian wagon manufacturers			
All-steel passenger coaches (Class III) furnished in Northern, North Eastern and Western Railway workshops	—	100	—
Motor and parcel vans	100	—	—
Imported			
All-steel coaches (furnished by the Central Railway)	—	6	—
All-steel coaches of integral design (furnished by the Central Railway)	45	—	—
Rail-cars *ex* Japan	—	12	—





Above: SHRI LAL BAHADUR SHASTRI, MINISTER FOR RAILWAYS SPEAKING ON THE OCCASION OF INSTALLING THE FIRST MACHINE IN THE PERAMBUR FACTORY.

Below: CEMENT CONCRETE FLOORING BEING LAID IN ONE OF THE SHOPS UNDER CONSTRUCTION AT PERAMBUR.

Goods wagons.—The number of wagons ordered and placed on line during the year is given below:

	(In terms of 4-wheelers)		
	Broad	Metre	Narrow
(i) Number ordered	11,597	5,550	100
Indigenous	9,085	2,550	100
Foreign	2,512	3,000	—
(ii) Number placed on line	8,698	5,545	—
Indigenous	8,695	1,236	—
Foreign	3	4,309	—

The number ordered includes 9,325 B. G., 4,950 M. G. and 100 N. G. general service wagons, 700 B. G. and 600 M. G. tank wagons and 1,572 B. G. special types of wagons.

The number placed on line comprised:

	(In terms of 4-wheelers)		
	Broad	Metre	Narrow
General service wagons	7,440	4,966	—
Petrol tank wagons	442	384	—
Other special types	816	195	—
	8,698	5,545	...

As the requirements of wagons have been in excess of the indigenous manufacturing capacity, orders to the extent of 2,512 broad gauge and 3,000 metre gauge wagons were placed abroad.

Technical Co-operation Mission and Colombo Plan Aid Programme.—During the year, a further Aid amounting to $10 million was allotted to the Ministry of Railways for Rail-Road Equipment against the fiscal year 1954-5 raising the total Aid to $30 million for the fiscal years 1953-4 and 1954-5. In consultation with the General Services Administration, Washington, it was decided to procure 100 WG class locomotives and 8,730 wagons with this amount. The orders were distributed as follows:

No.	Manufacturers
50 locomotives	M/s Lima-Baldwin-Hamilton, U. S. A.,
25 „	M/s British Locomotives Co., U. K.,
25 „	M/s Hitachi, Japan,
1,650 'MC' type wagons complete with wheelsets	M/s A. C. F. Industries, U. S. A.,
1,650 'O' type wagons complete with wheelsets	M/s Magor Car Corporation, U. S. A.,
2,215 'MC' type wagons without wheelsets	M/s Metro-Cammell, U. K.,
500 'MC' type	M/s S. A. Baum Marpent, France,
1,000 'O' type	M/s Simmering Graz-Pauker, Austria,
1,715 'O' type	M/s Metro-Cammell, U. K.,
10,860 wheelsets	M/s Sumitomo, Japan.

The delivery of stock is to commence from September 1955 and is to be completed by September 1956.

Colombo Plan.—Under the Colombo Plan Aid Programme, the Government of Canada have undertaken to supply 50 WG boilers and 120 WP locomotives with 5 per cent spare boilers to India. These boilers

and locomotives are being procured by the Government of that country. All the boilers have been received and the delivery of locomotives will be made during 1955-6. The Government of Australia have also made available an Aid amounting to three to four million Australian pounds (about Rs. 3·2 to Rs. 4·3 crores) under the Colombo Plan for railway equipment, and it has been decided to purchase 24 broad gauge Diesel Railcars and 2,000 MC type wagons complete with wheelsets. The procurement action is to be taken by the Australian Government.

89. Locomotives.—The average tractive effort per steam and diesel-electric locomotive on Government Railways during 1954-5, as compared with 1953-4, show an increase on both broad and metre gauges . The average tractive effort for electric locomotives on both broad and metre gauges remained the same as during last year. The detailed figures for the different classes of locomotives are shown in the following table:

AVERAGE TRACTIVE EFFORT PER ENGINE IN LBS.

Locomotives	Broad gauge		Metre gauge	
	1953-4	**1954-5**	1953-4	**1954-5**
Steam (including Sentinel Clayton types)	28,929	**29,143**	16,871	**17,107**
Diesel-electric	26,965	**27,240**	7,420	**9,804**
Electric	31,015	**31,015**	10,400	**10,400**

90. Manufacture of locomotives and boilers in India—

Locomotives.—No new order was placed on the Chittaranjan Locomotive Works during the year. The WG type broad gauge locomotives already ordered totalled 357. The Chittaranjan Locomotive Works during the year, produced 98 WG broad gauge locomotives compared with 64 WG locomotives produced during 1953-4 and completed its 219th locomotive.

The outturn of locomotives progressed rapidly from 6 per month in the early part of 1954 to 8 later that year, and 10 from January 1955 onward.

The rate of locomotive boiler outturn was also enhanced during the year from 4 to 8 per month which was achieved in January 1955. These boilers have been fitted to the locomotives turned out.

No fresh orders were placed on Messrs. Tata Locomotive & Engineering Co., during the year. Out of the previous orders for 50 YG and 100 YP locomotives, Tata Locomotive & Engineering Co., turned out 47 YP locomotives during the year bringing the total outturn to 109.

Boilers.—An order for 21 XE type B.G. boilers was placed on Messrs. Tata Locomotive & Engineering Co., during the year.

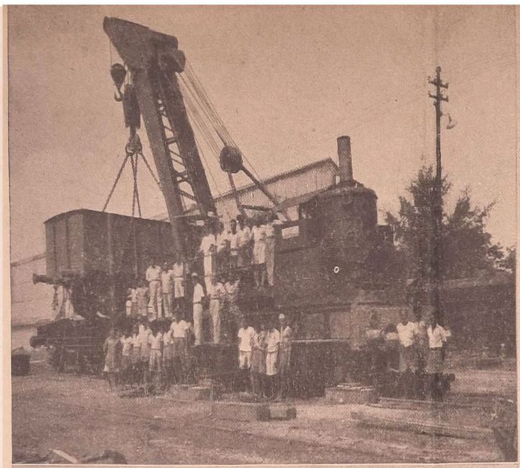
The outstandings on 31 March 1954 against the previous orders on the firm were 149, out of which 45 boilers were delivered during the course of the year.

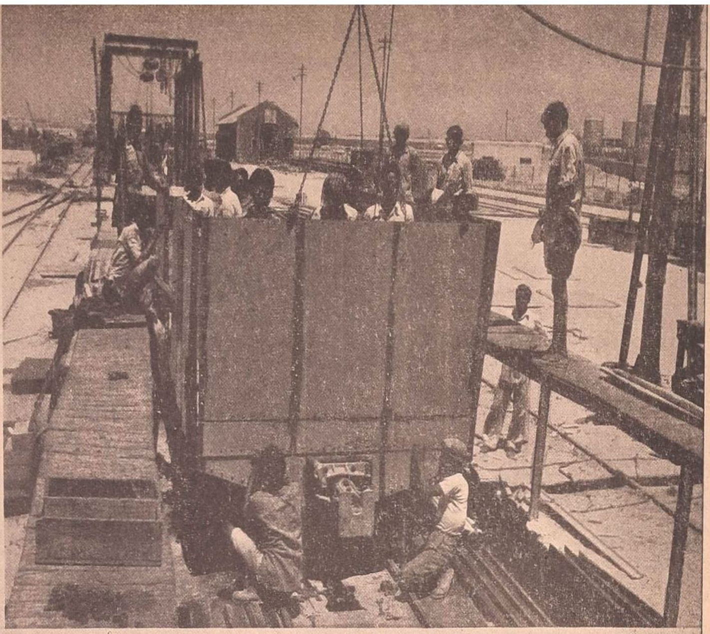
91. Improvements to workshops, running sheds and carriage and wagon depots.—In order to bring up the efficiency to the standard desired, railways continued to pay special attention to improvements in workshops, running sheds and carriage and wagon depots.

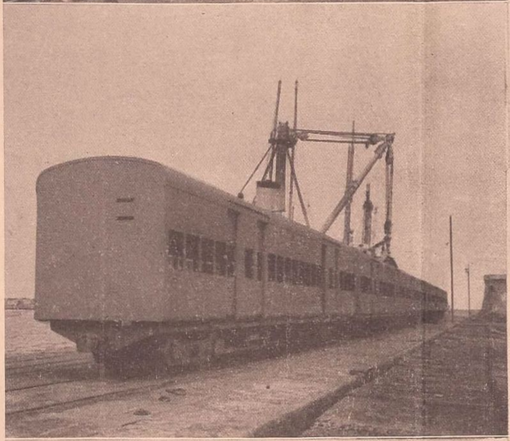
Among the major schemes which were initiated or are in progress are the remodelling of Ajmer Locomotive Workshops which on completion will go a long way towards making the Western Railway self-sufficient in regard to the overhaul of their metre gauge locomotive stock.

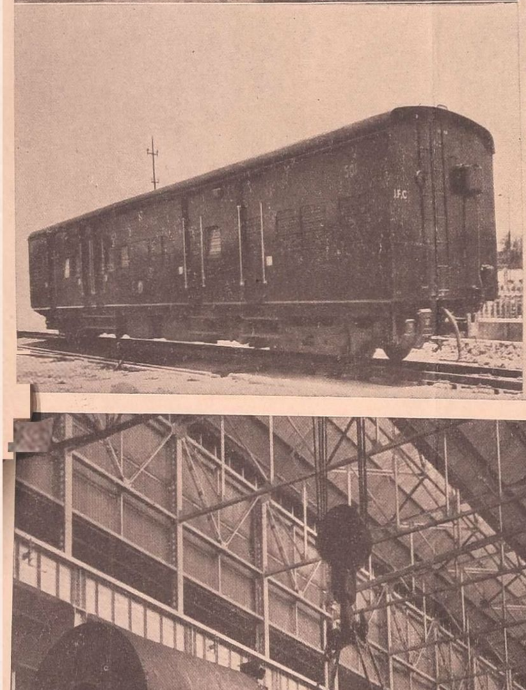
Modernization of the equipment in running sheds and carriage and wagon depots was taken in hand on a planned basis.

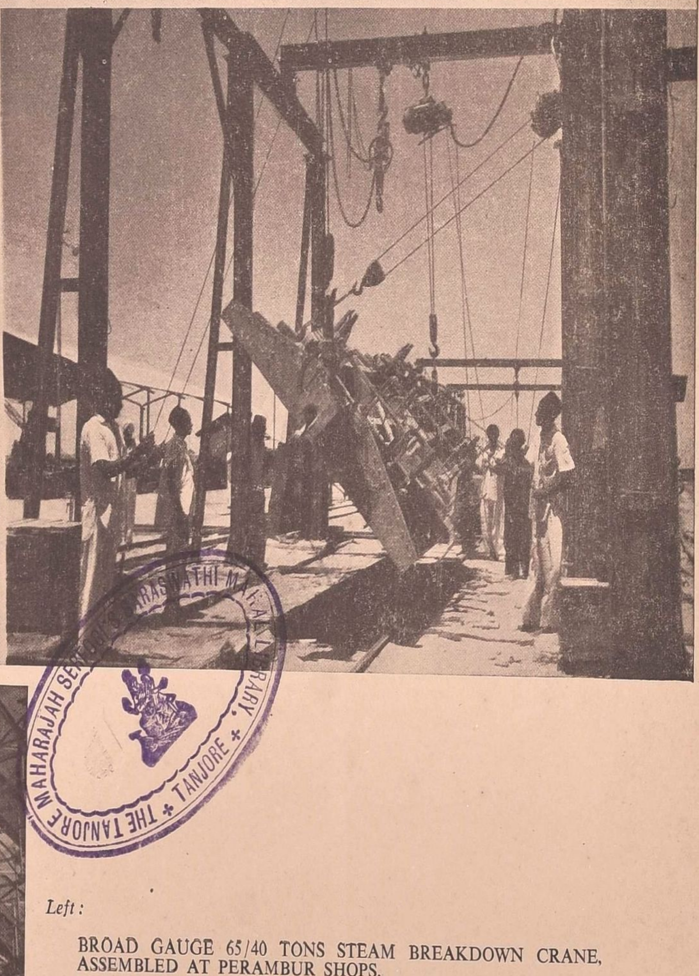
92. Fitting of automatic vacuum brakes and pipes to metre gauge stock.—The progress in fitting of automatic vacuum brakes and pipes to metre gauge stock is maintained on all Railways and it is planned to complete it by 1 August 1957.

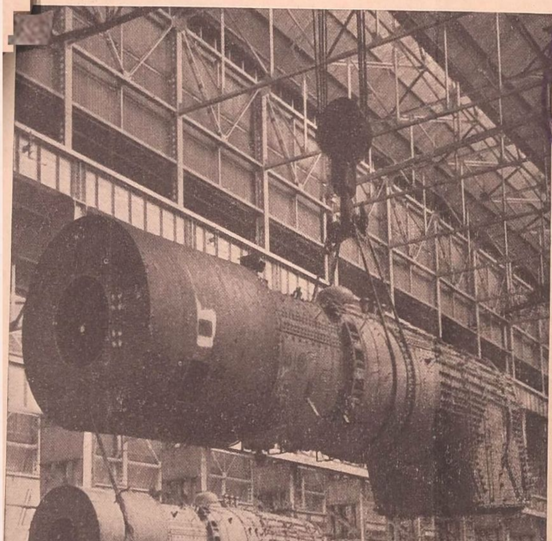












THE TANJORE MAHARAJAH SERFOJI'S SARASWATHI MAHAL LIBRARY. ✦ TANJORE ✦

Left :

BROAD GAUGE 65/40 TONS STEAM BREAKDOWN CRANE, ASSEMBLED AT PERAMBUR SHOPS.

METRE GAUGE SHELLS AS RECEIVED FROM ABROAD EXTERIOR VIEW.

METRE GAUGE PARTIAL AIR-CONDITIONED COACH BUILT AT SOUTHERN RAILWAY GOLDEN ROCK SHOPS—EXTERIOR VIEW.

A CHITTARANJAN-BUILT BOILER IS BEING CARRIED BY AN OVERHEAD CRANE FOR BEING FITTED TO THE FRAME.

Right :

ASSEMBLING OF WAGONS ON THE BELT LINE AT THE WAGON ASSEMBLY PLANTS, OKHA. THE PICTURE SHOWS THE END AND THE SIDE PLATES BEING BOLTED PRIOR TO COMMENCING RIVETTING.

THE UNDERFRAME AFTER BEING FITTED WITH BRAKE RIGGING IS BEING LIFTED FOR WHEELING AT THE WAGON ASSEMBLY PLANT, OKHA.

93. Repairs to locomotives in railway workshops and running sheds.—As compared with 1953-4, the average number of locomotives under or awaiting repairs in workshops and running sheds on the broad and metre gauges registered a slight decrease as shown by figures summarised in the following table:

AVERAGE NUMBER OF STEAM LOCOMOTIVES UNDER OR AWAITING REPAIRS

Gauge	Year	In mechanical workshops		In sheds and transportation shops	
		Number	Percentage to average total No. on line	Number	Percentage to average total No. on line
Broad	1953-4	282	5·44	654	12·6
	1954-5	**253**	**4·82**	**657**	**12·5**
Metre	1953-4	225	8·10	290	10·4
	1954-5	**200**	**7·30**	**247**	**9·01**

There was progressive improvement in the total percentage of locomotives under repairs, the figures being reduced from 17·0 in March 1954 to 15·6 in March 1955. The total number of both broad and metre gauge locomotives overhauled in mechanical workshops also showed a considerable improvement.

CHAPTER VI

RESEARCH AND STANDARDIZATION

A. RESEARCH ORGANIZATION

94. Building and equipment.—A paint house has been erected at Chittaranjan for the manufacture of paints and emulsions on a semi-pilot plant scale.

An additional 12-channel Hathaway camera, making a total of 4, was obtained for oscillograph recording.

95. Track research—

(a) *Track stresses.*—Tests were carried out to determine stresses in rails and fishplates with six different types of joint sleeper supports under both fast and slow moving traffic. Vertical deflections at the joints were also measured. The observations showed that minimum rail and fish-plate stresses occurred at the joints where wooden sleepers were used for the joint support ; that the intermediate sleepers had very little effect on rail stresses at the joints ; that maximum rail stresses were recorded at joints where Duplex sleepers were used ; and that maximum fishplate stresses were recorded at joints where CST-9 or steel trough sleepers were used.

(b) *Detection of flaws in rails in-situ.*—Ultrasonic testing of the track rails with the Audigauge flaw detector was started on about 1,900 rails on the Hyderabad-Secunderabad and Bezwada-Ongole sections as the rails were suspected of having developed incipient cracks on the rail table or of having internal flaws. Twenty one rails were indicated to be defective and were removed. The indications were generally satisfactory.

(c) *Development of suitable concrete sleepers for railway track.*—The experimental RC block type sleepers manufactured and laid for trial consisted of 38 B.G. in Poona yard according to C. S. O. design ; and 48 M. G. between Ghorpuri and Sasvad stations on the Southern Railway according to C. S. O. design.

The behaviour of the sleepers has so far been satisfactory.

(d) *Photo-elastic studies on stresses in rails.*—Photo-elastic analyses on stress distribution in 55 lbs. and 90 lbs. I. R. S. sections were made by the 2-dimensional method.

For the conditions of loading obtained in the 2-dimensional photo-elastic analyses it appears that 55 lbs. I. R. S. rail is nearly as good as 60 lbs. R. B. S. rail in regard to the stresses developed. Similar investigations showed that 90 lbs. I.R.S. rail is stressed less than the 90 lbs. R. B. S. rail so long as the ratio of the lateral to the vertical loads is less than two thirds. 3-dimensional analysis by the 'frozen stress' method has been projected: the material is on order.

96. Building research—

(a) *Foundations for buildings on black cotton soils.*—Work was continued on determining partinent characteristics and properties of black cotton soils and best methods of construction of foundations on such soils. As a result of the work done so far, following recommendations have been made to the railways for the design of foundations on black cotton soils:

- (i) the foundation soil should be loaded to as high an intensity of unit pressure as possible upto $1\frac{1}{2}$ tons per sq. ft.;
- (ii) the foundation should be constructed in dry weather so that the soil receives the full load in dry condition;
- (iii) lime mortar should be used in preference to cement mortar so as to give a flexible type of construction;
- (iv) Butt joints should be provided at vertical faces separating portions of buildings liable to differential settlements.

Experimental foundations have been provided to certain buildings on these lines. Their behaviour is being watched.

(b) *Trials on low cost housing.*—Studies on cheap constructions for walling, roofing and integral plasters were continued. It has been established that suitable concrete can be made with coal ashes available at loco sheds and watering stations. Two blocks of 8 units Type I quarters have been constructed with cinder concrete at Talegaon on the Central Railway and these are under observation.

Laboratory work has been completed on the use of coal ash concrete in arches up to 12 ft. spans.

(c) *Use of coal ash as pozzolana.*—Trials with concrete blocks with 5 to 20 per cent replacements of cement by minus 100 and 200 fractions of coal ash are being continued. The economic aspects of the use of coal ash as pozzolana are also being studied.

(d) *Temperature variations in buildings with different types of walls and roofs.*—Twelve experimental full size rooms with different roofs and wall materials, and ceiling heights have been constructed. A record of temperature inside is being kept in order to determine the best type of construction from the points of view of comfort and economy.

97. Soil mechanics research—

(a) *Soil Tests.*—During the year, 424 samples were tested out of which 253 were tested completely. These tests related to the design of foundations of buildings and bridges, and the stability of banks and cuttings.

(b) *Design of foundations.*—Advice was given regarding the design of foundations for a large number of important buildings and bridges.

(c) *Design of embankments.*—Tests were carried out to determine the design and the constitution of a cheap capillary-break for embankments in black cotton soils. As a result of a number of trials, an eight inch thick layer of uniformly coarse sand passing B. S. No. 10 and retained on B. S. No. 25 seives was found quite effective.

98. Locomotive research—

(a) *Tests on the locomotive as a power unit.*—Three series of tests were conducted during the year. One of these was on WP and WP/P locomotives fitted with thermic syphons and security circulators. From considerations of steam production capacity and boiler efficiency, both types were found to be equally effective. Conclusive data regarding scale formation could not, however, be obtained because only two locomotives had been fitted with circulators. Further trials have been planned with a view to reaching a definite conclusion on the comparative merits from the point of view of boiler maintenance also.

The second consisted of trials on the WG locomotive with and without sprayed asbestos lagging on the boiler. Preliminary trials carried out during extreme winter and summer seasons on thermal insulation of boilers were completed. A saving of about 2 per cent in fuel consumption was obtained when boilers were lagged with sprayed asbestos. The same saving would be obtained with other types of similar lagging materials. Service trials extending over a few years to determine the economics of the proposal have been planned. Slag wool, an indigenous material, will be tried.

Rating and performance trials on the YL prototype locomotive showed that the YL engine is quite suitable for hauling a designed load of 8 bogies at a speed of 40 m.p.h. With a minor modification to the boiler to eliminate priming the YL was found an acceptable, in some respects even better, substitute for the existing YF locomotive and suitable for placing bulk orders. It further appeared from the indicator trials that the ratio of the piston valve diameter to the cylinder bore has an effect on the efficiency of the steam engine. Further trials have been planned to determine the optimum value of this ratio in relation to the lap and the lead of the valve.

(b) *Indian Railway Fuel Committee Meeting.*—At the fifth meeting of the Indian Railway Fuel Committee which met at Lucknow in April 1954,

certain recommendations were made. The progress made on these recommendations is as follows:

(i) Loco coal requirements have been rationalized and a standing sub-committee has framed a rationalized loco coal programme to be finalized and put into effect after distributing centres are set up on the railways.

(ii) Targets for ground reserves have been laid down on the basis of the Committee's recommendation.

(iii) Procedure in connection with the reclamation of cinders from loco coal ashes has been framed and circulated to the railways.

(iv) The Research Centre has initiated action regarding boiler drafting trials with different qualities of coal. Trip rationing, improvements in firing technique and other measures necessary for controlling fuel consumption for loco and non-loco purposes will be undertaken after the supplies are organized on the basis of the rationalized loco coal programmes.

(v) A scale model testing plant is required for the laboratory investigations on utilization of slack, lignite and powdered coal. A scheme for a scale model testing plant is being finalized.

(vi) Proposals made by the Committee regarding fuel control organizations and training schedules are being examined.

99. Metallurgical and chemical research—

(a) *Metal.—*

(i) Open line trials on the use of spheroidal graphite cast iron shells in place of bronze shells have shown that the cast iron shells behave satisfactorily as backing material for anti-friction linings. The bond between C. I. shell and the anti-friction lining is comparable to that obtaining between conventional bearing materials but there is still some room for improvement. Arrangements for trials on a large-scale on pooled wagons are being made.

(ii) Heavy duty screw couplings have been designed to haul heavier loads and specifications have been drawn up in detail. Couplings manufactured to specification by Messrs. Jessop & Company have been tested and found up to expectations. Further suggestions have been made for improving the mechanical properties.

(iii) Work on the assessment of the quality of indigenously manufactured electrodes has been well advanced, and the preliminary report is under preparation.

(iv) Details of standards for metallurgical inspection of locomotive and boiler components manufactured at Chittaranjan have been worked out and are being applied for inspection.

(v) Studies have been made on numerous cases of abnormal wear of rails, rail fractures, welding of rails, strain ageing of butt welded indigenously manufactured boiler quality plates, failure of forge welded drawbars, etc.

(vi) Assistance was given in the revision of standards and specifications for boiler quality plates, code for arc welding of locomotive boilers, impact values of the material used in motion parts of the locomotive, acceptance of loco tyres showing defects after machining, specimens for testing strength of 'early steel' bridges, etc.

(b) *Internal treatment of locomotive feed water.*—A chemical complex has been evolved at Chittaranjan for internal treatment of locomotive feed water. The complex consists of 60 per cent tannin and 40 per cent soda ash by weight. About 1/2 to 1 lb. of this is required for treating 1,000 gallons of water which is added manually to the locomotive feed water

at the watering stations. The design of automatic dosing gear is under preparation. No external water softeners, separate storage tanks, etc., are required. About 400 locomotives of five railways in India were receiving this treatment at the end of March 1955, and the number is increasing every month. The wash out mileages of the engines have been increased and the method bids fair to result in a considerable improvement in the availability of engines.

(c) *Paints and varnishes.*—Laboratory trials have been completed on the manufacture of paints, varnishes, enamels, etc., from cashew and bhilawan nut shell oils available in plenty in India. Formulations for resins, varnishes, enamels anti-corrosive coatings, black Japan and wagon black, binders and duplicating inks have proved successful. The products will now be tried under service conditions.

(d) *Miscellaneous.*—The sixth meeting of the Indian Railway Chemists and Metallurgists' Committee was held at Mysore on 23, 24 and 25 February 1955.

100. Publication and Information—

(a) *Technical Bulletin.*—The Indian Railways Technical Bulletin in the revised form has become quite popular. The number of subscribers rose from about 1,300 to about 1,700 during the year under review.

Documentation Notes giving a survey of the technical literature received in the Research Centre are being monthly issued to the railways. Numerous enquiries were received from the railway staff who sought detailed information on subjects referred to in the notes.

(b) *Liaison with other research institutions.*—Intimate contacts have been maintained with other Research Institutions in the country and abroad.

Some of the main items of work framed out to National Laboratories and Research Institutions in the country were:

(i) Development of materials with low and constant coefficient of friction for loco centring devices;

(ii) Hard chromium plating of locomotive piston rings;

(iii) Briquetting of slack coal.

B. STANDARDIZATION

101. General.—The Central Standards Office for Railways continued to perform design, standardization and inspection functions in the Civil, Mechanical and Signal and Tele-communication Engineering and the Architectural fields. It also performed the functions of Consulting Engineers and dealt with all references made by the Railways, and Indian and Foreign builders of railway equipment in respect of design, manufacture, relaxations in specifications and inspection problems. Similar problems relating to special rolling-stock such as diesel and electric motor unit stock were dealt with. Technical examination of global tenders for electric, diesel and steam locomotives, spare locomotive boilers, passenger coach underframes, railcars, wagons, and rail travelling cranes ordered in 1955-6 rolling-stock programme was also undertaken.

Keeping in view the developments in respect of modern methods of signalling, a separate Signal and Tele-communication Wing was formed under the charge of the Chief Design Engineer (Signals). All design and standardization work pertaining to Railway Signalling, Interlocking and Tele-communication was transferred from the Civil Engineering Wing to the newly created Signal Wing.

The Chief Design Engineer (Civil) was sent on deputation for six weeks to the United Kingdom and the European Continent to attend the International Railway Congress Session at London and to study modern European developments in permanent way engineering with particular reference to concrete sleepers. The report submitted by this officer was circulated by the Railway Board to the Indian Railways.

The Drawing Office for the non-standard American locomotives, comprising of one Class II Officer and 20 Drawing Office staff, situated at Kancharapara under the administrative control of the Chief Mechanical Engineer, Eastern Railway, was transferred to Chittaranjan and put under the administrative control of the Central Standards Office in the interest of better supervision and co-ordination.

102. Design and standardization—

(i) The following Standards Committees continued to function in the Central Standards Office:

(1) Bridge and Structures Standards Committee ;
(2) Track Standards Committee ;
(3) Building Standards Committee ;
(4) Signalling and Interlocking Standards Committee ;
(5) Locomotive Standards Committee ;
(6) Carriage and Wagon Standards Committee ;
(7) Electrical Standards Committee ;
(8) Standing Committee on Standards and Specifications.

(ii) *Designs and technical consultations.*—Brief details of the more important items of design, standardization and technical consultations undertaken by the different wings of the Central Standards Office, during the year, are summarized below.

CIVIL ENGINEERING WING

Designs—

Bridges.—Detailed designs of 20′, 30′, 40′, 50′, 60′ and 80′ broad gauge. M. L. standard spans of mild steel (rivetted type) using rationalized sections were prepared. Detailed drawings of a precast prestressed concrete foot over-bridge spanning 2 tracks (broad gauge) were finalized.

Track.—The following are some of the important designs prepared:

(*a*) Special snag dead end (right hand and left hand) crossings for use on broad gauge run through lines;
(*b*) Cement concrete ashpit for broad gauge run through lines;
(*c*) R. C. Block sleeper broad gauge ;
(*d*) R. C. Block sleeper metre gauge.

The work on the preparation of the remaining Chapters VI to XI of the Indian Railway Standard Track Manual was taken in hand.

Buildings.—Drawings were prepared for precast concrete platform lamp posts, passenger and goods platform walls, platform benches on two frames, station name boards and mile posts and gradient posts.

The tenders submitted by the various firms for the Ganga Bridge Project were scrutinized and a technical note on the various designs proposed by the tenderers was prepared for the guidance of the Tender Committee. The work relating to the checking and approval of the detailed circulations and drawings submitted by Messrs. Ganga Bridge Construction Co., whose tender was accepted, was also undertaken.

Miscellaneous.—The Central Standards Office initiated and took steps to progress trials on the Railways with the following new designs and products:

Track.—90 lbs. and 55 lbs. new I. R. S. rails and fishplates,
Springs crossings,
Measured shovel packing on metre gauge main lines,
Special expansion joints on bridges,
Welding of rail joints by Thermalite and Flash butt welding processes,
1 in 12 turnouts with curved switches,
1 in 8½ diamond crossings with raised check rails,

Broad gauge and metre gauge trollies with gear propelling arrangements,

1 in $8\frac{1}{2}$ switch diamond,

24" long broad gauge fishplates,

Oil quenched carbon quality steel fishplates,

1 in 12 crossings with over riding splice rail,

Reinforced concrete broad gauge and metre gauge sleepers.

Buildings.—Construction of quarters with cinder concrete block and with cement stabilized soil,

Reinforced concrete benches,

Platform lamp posts,

Reinforced concrete door and window frames,

Construction of post and panel type of quarters.

Structures.—Asbestos cement gutters for passenger platform shelters,

Construction of shell roofs on Western and Central Railways.

SIGNAL ENGINEERING WING

Designs.—The 3-position Carsen Type Double Line Lock and Block instrument, already in use on the Northern Railway, was accepted as standard.

Designs of various components for double wire signalling have been prepared.

Technical consultations.—The proposals of increasing the capacity of (i) Ratlam-Godhra Section on the Western Railway and (ii) Kanpur-Lucknow Section on the Northern Railway by application of modern methods of signalling—Automatic Block Signalling/Controlled Manual Block (Japanese type) or Centralized Traffic Control with partial doubling, in lieu of doubling of the sections were examined and recommendations were made for consideration of the Railway Board.

Technical advice was given to the firms in connection with (a) test requirements for luminosity and chromoticity of signal glasses, roundels and lenses, (b) Flash butt welding of coupling ends to point rodding and (c) the use of cast steel against mild steel for the manufacture of crank for spring points lever-self reversing (still handle) type.

Technical advice was also given to the Director, Forest Research Institute, Dehra Dun, regarding the test requirement of tensile strength, compression strength, impact strength dielectric strength, etc., of compregnated wooden fishplates.

Technical assistance was given to the National Physical Laboratory in connection with the testing of the signalling equipment supplied by Messrs. Siemens and Halske (West Germany). The Signalling and Interlocking Standards Committee had recommended that the equipment should be subjected to extensive test before installation.

Miscellaneous.—The question of indigenous manufacture of signalling and interlocking equipment and other material used for signalling purposes, which are at present imported, was further examined by a committee consisting of the representatives of Ministries of Railways, Works, Housing and Supply and the Commerce and Industry. The Committee recommended that development indents for the manufacture of signal glasses, roundels and lenses and certain electrical signalling equipment, such as, single line token instruments, double line block instruments, signals colour light, electric signal machines, electric points machines, etc., should be placed on one or two firms.

The draft of the Signal Engineering Manual prepared by the Chief Design Engineer (Signals) as Signal Engineering Member of the Standards Advisory Committee (Railway Board) was finalized, incorporating the modifications suggested by the Committee of the Chief Signal and Tele-communication Engineers. Arrangements for printing of the Signal Engineering Manual were made.

Rules regarding lighting of signals at unmanned outlying siding points were discussed. The Signal and Inter-locking Standards Committee recommended that as the general rules did not lay down any instructions, this should be specifically mentioned in the station working rules.

ARCHITECTURAL WING

Designs for several important buildings were undertaken and advice in architectural matters was given to the Railways. Among the more important of these are the Station building at Allahabad, Divisional offices at Allahabad, Lucknow metre gauge station building, Station building at Gandhidham, Apprentices Hostel for Integral Coach Factory, Perambur, Station building at Raja-ki-Mandi and Hospital at Madura.

LOCOMOTIVE WING

Designs.—The more important design and drawing work undertaken during the year included the following items:

(*a*) Complete design of broad gauge double bogie tenders common for WP and WG locomotives ;

(*b*) Modification to certain engine components to suit the one-piece cast steel bed frame;

(*c*) Procedure for building up boiler wrapper plates utilizing plates of narrow width rolled indigenously ;

(*d*) Application of roller bearing axle boxes on coupled axles of YP locomotives ;

(*e*) Investigation on the provision of Constant Resistance Device form of control on WP/WG locomotives ;

(*f*) Improvements in the design of YL class locomotives for bulk purchase, based on Dynamometer and Oscillation trial reports, involving re-design of the boiler and modifications to a few engine components, in order to ensure better steaming and riding qualities, and provision of bogie tender in lieu of 6-wheeled tender fitted to the proto-type YL locomotives ;

(*g*) Investigation of the maximum permissible speed for WG locomotive running dead without coupling and connecting rods ;

(*h*) Standardization of tank locomotives for broad gauge sections of Indian Railways ;

(*i*) Estimation of horse power and tractive effort for the Co-Co Dual Purpose electric locomotive for the Eastern Railway ;

(*j*) Stability calculations of broad and metre gauge cranes ;

(*k*) Checking of drawings and stress calculation of design submitted by Japanese locomotive builders of WG and YG class locomotives.

Technical consultations.—The sub and main committees of the Locomotive Standards Committee held a session each during the year. The more important subjects discussed were:

(*a*) Types of broad gauge tank locomotives to be standardized ;

(*b*) Trial with thermic syphon butt-welded to firebox throat plate ;

(*c*) Acceptance of electric resistance welded boiler tubes ;

(*d*) Trials with lithium-base grease with a view to standardizing on one type of lubricant for all the three makes of roller bearings in use ;

(*e*) Failure of coupled axles on WP locomotives ;

(*f*) Hot Box Committee's Report.

Miscellaneous.—The production of part drawings for locomotive components continued for both IRS and non-standard American-built locomotives. During the year 1,312 part drawings were made bringing the total to 5,742. 1,325 tracings were mechanically produced and circulated to railways.

CARRIAGE AND WAGON WING

Designs.—A number of important items of design and drawing work were undertaken during the year under review.

Carriages.—Items of the work relating to carriages included the design of common body side doors for broad gauge and metre gauge coaches, Design of Vestibules for conventional and integral light-weight broad gauge corridor type coaching stock, essential drawings for dining and restaurant cars, III class sleeping cars, EMU stock, design of Aluminium Roof water tanks for lavatories and new layouts for certain types of coaches and train formations, such as, the broad gauge partial air-conditioned and Second class compartment type coach, dining and restaurant cars, Third class sleeping cars with two doors and three aside, complete 'Adhunik' Janata train rake (broad gauge), Janata tourist car, etc.

Wagons and underframes.—As regards wagons and underframes the wing dealt with the fitting of shock absorbers to I.R.S. bogie trucks to improve riding qualities of special heavy weight coaches, evolution of high capacity bolster and bearing springs for metre gauge coaching bogie trucks, preliminary design drawings for 'BOBS' type hopper wagon with hand operated door for quick side discharge of iron ore, etc.

Electrical.—On the Electrical side, drawings for external lights, wiring diagram of metre gauge coach and swivelling adjustable type carriage fans, were completed during the year.

Technical investigations.—There were two technical investigations namely, the stress analysis of 10, 12 and 16 ton axles with reference to parallel machining for axle pulley seat, and strength of drawbar and screw coupling of broad gauge stock.

103. Specifications and codes of practice.—Nine new Indian Railway Standard Specifications were issued, and 26 were revised and reissued. Thirty new Indian Standard Specifications and three British Standard Specifications were adopted for the Indian Railways. The total number of Indian Standard Specifications adopted for use on Indian Railways rose to 165.

The following particular specifications were prepared by the Locomotive and Carriage and Wagon Wings:

- Steam locomotives—WG, YG, YL, YP, and YM classes ;
- Spare boilers—XA, XB, and XE classes ;
- Spare fireboxes—A/CWD and MAWD classes;
- Diesel locomotives—600 and 325 HP (Bo-Bo) type ;
- Electric locomotives—3,000 Volts. D. C. Dual purpose (mechanical portion only) ;
- Cranes steam operated—75, 40, 20, and 5 ton on B. G. 35 and 20 tons on M. G.
- *Coaches—All Metal—B.G.*—Military car, III class coach (HAL), and III class I. C. F. type.
- *Coaches—All Metal—M.G.*—III class coach (HAL) and III class coach shell (Jessops).
- *Coaching Underframe*—Standard bogie and four wheeled underframes for all gauges.
- *Rail car—Diesel.*—for 2′—0″ and 2′—6″ gauges.
- *Wagons—B.G.*—'O', CR, CMR, CMR (Aluminium panels), BVG, TPR, TM, TSA, SMV, BR and BOBX types.
- *Wagons—M.G.*—MOX, MC, MBVG, MBMV, MBOC, MBR, MBTPX, Molasses Tank Wagons, MBTSA and MBOB types.
- *Wagons—N.G.*—NOL, NO (for Kosi Project), and NCL.

104. Inspection.—Reinforced concrete sleepers for the metre gauge main line and broad gauge branch line laid near about Poona were inspected. Inspection of new Indian Railway Standard rail sections and fishplates laid in track and of the slightly staggered joints laid on C. S. T. 9 sleepers with

bifurcated tie bars was also carried out. As the work done by a firm on welded girder spans for the Southern Railway was not considered satisfactory, inspection of the girders was jointly carried out by representatives of the Central Standards Office, the firm and the Director General, Supplies and Disposals.

The inspection work at Telco. showed a progressive increase in load owing to enhanced outturn from Telco. Works. The following locomotives and boilers were accepted by the Central Standards Office on behalf of Railways:

From Telco.

Boilers	
XC	2
YD	41
Locomotives	
YP	44
YG	1

The Texmaco Works at Calcutta commenced production of locomotive spare boilers, necessitating inspection at these Works.

The Double Line Look and Block instruments.—Tyer's 'D' type, working on Budni-Barkhera section of the Central Railway, the prototype of double wire interlocking frame being manufactured in the Signal Workshops, Eastern Railway, Howrah, and the prototypes of Double Wire Compensators, Double Wire Detector single and coupling device (Indoor) and Lifting Barriers being manufactured in Signal Workshops, Northern Railway, Ghaziabad, were inspected.

The works of Messrs. Siemens General Electric Co. (India) Ltd., Calcutta, Messrs. Saxby & Farmer (India) Ltd., Calcutta and Messrs. India Electric Works, Calcutta, were inspected in connection with the indigenous manufacture of signalling equipment.

105. Liaison with technical bodies.—The Central Standards Office continued to represent the Ministry of Railways on the General Council, Engineering Division Council, Building Division Council, and 55 Sectional Committees and Sub-Committees of the Indian Standards Institution. Active part was taken in initiating and developing all-India standards which were of particular interest to Railways.

CHAPTER VII

RAILWAY EQUIPMENT AND STORES

106. Railway Stores Enquiry Committee 1950-1.—Stores Purchase Committee referred to in para. 112 of the Report for the last year have submitted their report and have recommended that:

(i) Purchase of specialized stores should be progressively transferred to the Central Purchase Organization, Directorate General of Supplies & Disposals ;

(ii) The Railways should be authorized to make direct purchases up to the enhanced value of Rs. 10,000 in each case.

These two recommendations preclude the Railways from assuming full responsibility for obtaining supplies of items peculiar to the railways and common user items essential for railway operation and workshop production as had been recommended by the Railway Stores Enquiry Committee.

107. Value of railway equipment and stores purchased.—A statement showing the value of railway equipment and stores ordered through various sources, viz., (1) Ministry of Works, Housing and Supply, (2) Other Ministries, (3) Railway Board, and (4) Railways direct during 1954-5, as compared with the value of similar orders placed during 1953-4 is given below. The Railway Board continued to purchase during the year, as in previous years, certain important rolling-stock items for Indian Railways, like locomotives, coaches and wagons, which were procured comparatively in larger number than in 1953-4.

(In lakhs of rupees)

Year (1)	Total value of equipment and stores ordered (2)	Value of equipment and stores ordered through the Ministry of Works, Housing and Supply (3)	Value of equipment and stores ordered through other Ministries (4)	Value of equipment and stores ordered by the Railway Board (5)	Value of equipment and stores ordered by the Railways direct (6)
1953-4					
(a) Value	1,05,86·07	28,92·88	122·43	27,52·16	48,18·60
(b) Percentage	100	27·33	1·16	25·99	45·52
1954-5					
(a) Value	1,39,97·54	58,73·57	50·5	28,09·68	52,63·79
(b) Percentage	100	41·96	0·36	20·07	37·61

108. Payments made for railway equipment and stores.—The payments made in respect of equipment and stores by the Government Railways during the year 1954-5 amounted to Rs. 1,07·67 crores as against Rs. 90·03 crores last year. The value of indigenous materials increased by Rs. 19,21 lakhs and that of imported materials decreased by Rs. 1,57 lakhs.

The statement below summarizes the details of the payments made during 1954-5 and the corresponding figures for 1953-4. The stores under all the items, except 'All other stores' recorded increased payments during the year.

PAYMENTS MADE FOR RAILWAY MATERIALS DURING 1954-5

(Figures in lakhs)

Particulars	Imported materials			Indigenous materials	Total	
	Purchased direct	Purchased through agents in India	Total imported materials		1954-5	1953-4
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(A) Bridge work and its parts, fittings and special fastenings	..	5	5	17	**22**	17
(B) Engineering plant and components including all hand and power machinery	1	19	20	14	**34**	29
(C) Workshop machinery, plant and equipment including pneumatic machinery and tools	74	1,23	1,97	96	**2,93**	1,12
(D) Permanent way material and track tools	3	17	20	11,98	**12,18**	8,46
(E) Rolling-stock	9,60	6,93	16,53	18,27	**34,80**	28,88
(F) Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	1	23	24	3,33	**3,56**	2,37
(G) Stores, hardware, copper, tin and zincware, all leather canvas and India rubber in bulk, materials painters' stores, timber and fuel oil, etc.	24	1,45	1,69	29,25	**30,94**	25,30
(H) Electrical and train and locomotive lighting plants and materials, etc., and telegraph and telephone equipment	49	86	1,35	2,02	**3,37**	2,66
All other stores	16	1,64	1,80	17,53	**19,33**	20,78
TOTAL	11,28	12,75	24,03	83,65	**1,07,68**	90,03

The detailed figures are given in Appendix A of Volume II of this Report.

109. Intake of indigenous equipment and stores.—The total payments made for railway equipment and stores during 1954-5 amounted to Rs. 107,67·05 lakhs. Of this the value of the direct imports was Rs. 11,27·52 lakhs and imported material purchased in India accounted for Rs. 12,75·33 lakhs. Thus the imported material accounted for Rs. 24,02·85 lakhs. The balance of payments were for equipment and stores of Indian manufacture or of indigenous origin which accounted for 77·69 per cent of the total expenditure. The comparative figures for 1953-4 and 1954-5 are given below:

(Figures in lakhs of rupees)

Year	Amount of payments made for equipment and stores imported direct	Amount of payments made for imported equipment & stores purchased in India	Amount of payments made for equipment and stores of Indian manufacture or of indigenous origin	Total payments made for imported and indigenous railway equipment & stores	Percentage of columns (4) and (5)
(1)	(2)	(3)	(4)	(5)	(6)
	Rs.	Rs.	Rs.	Rs.	
1953-4	12,17·31	13,42·90	64,42·86	90,03·07	71·56
1954-5	**11,27·52**	**12,75·23**	**83,65·22**	**1,07,67·97**	**77·69**

110. Rationalized distribution of surplus stock.—Surplus stores which stood at Rs. 10·19 crores on 31 March 1951 have been brought down to Rs. 3·59 crores by 31 March 1955. Surplus stores now left over represent items for which there is no appreciable demand from the Railways.

In view of the dwindling rate of disposal, Railways have been instructed that surplus items which are not required by any Railway and which have been lying undisposed for more than two years, should be disposed of to the best advantage in accordance with the recommendations of the survey committees as per existing code rules.

111. Use of *khadi* on Railways.—In order to popularize the use of *khadi*, the Railways have been instructed to make the maximum use of *khadi* (as distinct from handloom and mill-made cloth), for meeting, as far as possible, their requirements of the following articles:

Bed-sheets, durries, table cloth, towels, napkins, dusters, *dungree* cloth, *dosuti* cloth, curtains, bandage cloth, *chaddars*, sheetings, bunting cloth, cellular, cleaning cloth, swabs kitchen and sponge cloth, *dhoties, gauze mulmul*, jaconet cloth, *kora* cloth, long cloth, and pillow covers.

The latest reports received from the Railways show that about 90 per cent of the total purchases of the above articles are made in *khadi*.

In order to promote the use of *khadi* for uniforms and other purposes the railways have recently been further instructed that 'dosuti *khadi* thick blue' should be used in lieu of 'mill-made blue drill' which is generally used for the uniforms of class IV staff and which constitutes a major portion of the railways' requirements of cotton cloth.

112. Stores balances.—The statement below compares the total stores balances at the end of 1954-5 with those at the end of 1953-4. These figures are provisional as the accounts for the period 1 April to 14 August 1947 have not so far been closed and the balances carried forward in the case of *ex*-StatesRailways have not yet been finalized.

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1953-4 AND 1954-5

(In lakhs of rupees)

	1953-4	1954-5
Central	10,36	**10,36**
Eastern	13,22	**13,28**
Northern	7,27	**7,98**
North Eastern	7,34	**8,24**
Southern	6,72	**6,52**
Western	4,67	***5,02**
Other Railway Units	2,80	**3,54**
TOTAL	52,38	**54,94**

* Includes Rs. 3 lakhs on account of transfer without financial adjustment in respect of *ex*-Saurashtra Railway as on 1 April 1950.

There is an overall increase of Rs. 256 lakhs in the balances in the end of 1954-5 as compared with the balances at end of 1953-4. The chief factors responsible for this increase are: increased stock required to be maintained to meet increased consumption and production, taking over of workshop stores on the Gondal Region of the Western Railway and more purchase of wooden sleepers by the Northern Group Sleeper Pool.

113. Disposal of Scrap.—Normal procedure for collection, classification and disposal of scrap and unserviceable material as already given in para. 119 of the last year's report, was followed during the year 1954-5.

The detailed particulars of accumulation and disposal of scrap during 1954-5 by the Railways are given in the following statement.

Particulars of accumulation and disposal of scrap during 1954-5

Railways	Ferrous						Non-ferrous						Miscellaneous		
	Balance as on 1-4-1954		Scrap disposed of during 1954-5		Balance as on 31-3-1955		Balance as on 1-4-1954		Scrap disposed of during 1954-5		Balance as on 31-3-1955		Balance as on 1-4-1954	Scrap disposed of during 1954-5	Balance as on 31-3-1955
	Qty. (Tons)	Value (lakhs of Rs.)	Qty. (Tons)	Value (lakhs of Rs.)	Qty. (Tons)	Value (lakhs of Rs.)	Qty. (Tons)	Value (lakhs of Rs.)	Qty. (Tons)	Value (lakhs of Rs.)	Qty. (Tons)	Value (lakhs of Rs.)	Value (lakhs of Rs.)	Value (lakhs of Rs.)	Value (lakhs of Rs.)
Central	20,711	@60·2	28,732	36·7	19,025	%49·1	1,823	*	453	11·5	1,699	†	..	4·4	..
Eastern	46,959	38·3	29,869	38·6	40,495	35·9	1,796	23·2	1,312	17·8	1,379	19·5	9·9	11·3	13·8
Northern	24,576	27·5	18,919	20·9	21,242	25·5	1,501	27·0	430	8·3	1,344	24·2	3·4	4·2	3·2
North-Eastern	4,317	3·3	6,514	4·8	5,092	4·9	595	4·8	420	4·2	628	5·8	..	..	..
Southern	8,240	5·9	10,629	14·4	8,857	6·3	1,490	9·5	672	14·1	1,026	6·9	0·4	8·8	0·2
Western	13,199	21·5	9,789	9·0	16,244	12·4	602	6·6	448	7·7	843	8·4	1·5	9·8	2·2
C.L.W.	866	0·9	316	0·4	1,024	1·1	198	1·9	..	..	243	2·3	1·4	0·1	1·4
TOTAL	118,868	157·6	104,768	124·8	111,979	135·2	8,005	73·0	3,735	63·6	7,162	67·1	16·6	38·6	20·3

Note.— * included under @ † included under (%).

114. Timber supply position.—No improvement has been noticeable in the supply position of timber during the year under review. Partly due to transport difficulties and partly due to delay in inspection of timber tendered by suppliers for inspection, the timber offered could not be made available to indentors. Steps have since been taken to expedite inspection and availability of transport. The principal reason, however, of shortage of timber supply, is the paucity of suitable species of timber in India required for use on Railways. Andaman timber is being introduced, but the overall requirements of Railways continue to outstrip the available sources of supply.

The table below shows the quantities of timber demanded and the quantities passed after inspection during 1954-5:

SUPPLY OF TIMBER AGAINST INDENTS DURING 1954-5

Period	Quantity indented (Tons)	Quantity passed (Tons)
II Quarter 1954	48,438	11,592
III Quarter 1954	9,141	7,527
IV Quarter 1954	9,688	3,453
I Quarter 1955	1,463	*6,445
TOTAL	68,730	29,017

* Includes arrears.

115. Wooden sleeper purchase organization.—With effect from July 1954, the sleeper groups were abolished, and the General Managers of Indian Railways were authorized to act on behalf of the Railway Board in planning the maximum supply of wooden sleepers from their respective zones and negotiating with the State Governments as shown below:

Railway	*States*
Northern	Punjab (I), Himachal Pradesh, PEPSU and Jammu and Kashmir.
North Eastern	Assam, Uttar Pradesh and Nepal.
Eastern	West Bengal, Bihar, Orissa, Madhya Pradesh and Vindhya Pradesh.
Southern	Andhra, Hyderabad, Madras, Mysore, Travancore-Cochin, Bombay and Coorg.
Western	Saurashtra, Madhya Bharat and Rajasthan.

116. Purchase of wooden, cast iron and steel sleepers.—During the year ending 31 March 1955 the following wooden, cast iron and steel sleepers were purchased by the Railways:

Railway	B. G.	M. G.	N. G.	Specials
WOODEN				
Central	36,930	5,094	8,300	36,181
Eastern	70,677	—	106,867	30,322
North Eastern	500	462,427	—	26.728
Northern	294,888	149,659	10,698	43,763
Sourthern	200,104	358,238	4,947	41,948
Western	113,816	293,773	113,458	150,360
TOTAL	716,915	1,269,191	244,270	329,302
CAST IRON				
Central	183,173	—	—	—
Eastern	170,911	—	—	—
North Eastern	—	—	—	
Northern	249,980	—	—	—
Southern	76,908	127,130	—	—
Western	161,980	—	—	—
TOTAL	842,952	127,130	—	—

Railway	B. G.	M. G.	N. G.	Specials
	STEEL			
Central	—	—	—	—
Eastern	170,966	—	—	—
North Eastern	—	265,460	—	—
Northern	18,200*	70,000	—	—
Southern	71,686	76,158	—	—
Western	40,186*	2,200	—	—
TOTAL	301,038	413,818	—	—

* Imported sleepers.

The average price of first class wooden sleepers on various Railways purchased from State Forest Departments and private contractors was as under:

Railway	Broad gauge per sleeper F.O.R. I Class			Metre gauge per sleeper F.O.R. I Class			Narrow gauge per sleeper F.O.R.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
North Eastern									
Private contractors	18	—	—	8	—	—	—	—	—
U. P. Forests	—	—	—	7	15	—	—	—	—
Assam Forests	—	—	—	9	—	—	—	—	—
Northern									
Jammu and Kashmir Forests (Deodar)	18	—	—	8	8	—	6	—	—
(Chir)	12	4	—						
Southern Railway									
Private contractors	19	11	9	9	6	1	5	12	3
Bombay Forests	18	—	—	8	2	—	—	—	—
Madras Forests	20	—	—	9	8	—	—	—	—
Mysore Forests	—	—	—	8	8	—	—	—	—

At Dhilwan creosoting plant on the Northern Railway 270,918 B. G., 200,250 M. G., 42,526 N. G. sleepers of coniferous species and 3,519 three-foot-ends of *chir* sleepers were treated during the year with a mixture of 40 per cent creosote and 60 per cent liquid fuel oil. Besides these, 428 *chir* poles were treated for the Punjab (P. W. D.) Electricity Branch. *Chir* sleepers were treated by the Rueping process and the *Kail* and *Sal* (B. Grade) by the Full-cell process. 428 *chir* poles for the Public Works Department were treated by the Full-cell 50 per cent creosote and 50 per cent liquid fuel oil. The details are given in the statement below:

SLEEPERS TREATED IN CREOSOTING PLANT AT DHILWAN DURING 1954-5

	Chir				*Kail*	*Sal* B. Grade	*Chir* poles for P.W.D.
	B. G.	M.G.	N. G.	Ends 3ft.	B.G.	M.G.	
(i) Number of sleepers treated	270,573	194,250	42,526	3,519	345	6,000	428
(ii) Cost of treating per sleeper in Rs. excluding freight from source	1-12-6	0-15-4	0-12-11	0-13-1	1-13-11	0-11-8	38-12-6
(iii) Average absorption of mixture per c.ft. in lbs.	5·10				5·15	3·29	20·49

At Naharkatiya plant on the North Eastern Railway, 70,563 B.G. and 107,055 M. G. sleepers of *Hollong, Makai, Jutili, hollock koroi, hatipolia* and *nahor* species were treated during the year with creosote and sleeper oil or creosote and furnace oil in 50:50 proportion. Besides these, 18,145 c.ft. timber for other Government Departments were also treated. The average absorption was 5·8 lbs. per c. ft. and the cost of treatment per sleeper was Rs. 5-0-2 per B.G. and Rs. 2-6-6 per M. G. sleeper.

At the creosoting plant at Clutterbuckganj on the North Eastern Railway, the number of sleepers treated during the year with creosote oil and furnace oil in 40:60 proportion were 68,805 B. G., 49,472 M. G., 8,707 N. G. sleepers and 840 (off cuts). The average absorption for sleepers was 7·189 lbs. per c.ft. and the cost of treatment per sleeper was Rs. 5-4-11 per B. G., Rs. 2-8-9 per M.G. and Rs. 1-13-9 per N. G. sleepers.

The relative position of the various kinds of sleepers may be seen from the following percentages based on the total number of sleepers on track on Government Railways:

RELATIVE POSITION OF VARIOUS KINDS OF SLEEPERS

1953-4 (revised figures)

	Wooden Per cent	Cast Iron Per cent	Steel Per cent	Other kinds Per cent
Broad gauge	20·98	50·82	28·12	0·08
Metre gauge	70·36	4·04	25·60	—
Narrow gauge	69·77	1·38	28·85	—

1954-5

	Wooden Per cent	Cast Iron Per cent	Steel Per cent	Other kinds Per cent
Broad gauge	20·38	53·29	26·3	0·03
Metre gauge	74·19	4·38	21·43	—
Narrow gauge	69·83	1·25	28·92	—

117. Cement Supply to Indian Railways.—On receipt of the quarterly requirements of cement from all the Railways, a consolidated demand is placed on the Ministry of Commerce and Industry who make allotment to all indentors based on the total demand for the quarter and the relative output of all the cement factories.

During the year under review the total allotment of cement made to the Railway by the Ministry of Commerce & Industry was 234,750 tons against a total demand of 335,308 tons representing 70 per cent of the demand.

Compared to the previous year the total supply was 51,480 tons more and the percentage allotment against the demand improved from 66 per cent to 70 per cent, the demand having increased from 276,403 tons to 335,308 tons.

118. Steel supply situation.—The overall supply position of steel during the year under review continued to be difficult.

Though the Ministry of Commerce and Industry covered the Railways' requirements by allotting necessary quotas, the actual supply of steel against such quotas was often much delayed. Certain categories of steel, such as, sheets, mild steel plates, panel plates, high tensile steel, and spring steel were particularly in short supply as also some sections like RBRR angles, door striking bars, etc.

The indigenous production being inadequate to meet the requirements of the railways in full, the Ministry of Commerce and Industry arranged for the import of panel plates, plates, spring steel, billets, etc., to make up for the shortage, but the supplies arranged did not generally materialize in time.

The supply of steel sleepers, rails, fish plates and points and crossings also continued to be unsatisfactory.

119. Supply position of vital stores or components of importance—

Imported stores.—The following are the important stores for which crossmandates were issued to Director-General, India Stores Department London during the period under review:

(1) Wheels and axles,
(2) Spares for caprotti and lentz valve gear,
(3) Fog signals,
(4) Diesel loco spares and spares for A.D.E. Locomotives,
(5) Belting gripoly,
(6) Rods coupling,
(7) Fire box tube plates,
(8) Castings and semi-finished stores for coaches,
(9) Axle crank rough turned,
(10) Tyres steel,
(11) Thermic syphon,
(12) Spares for electrical traversers,
(13) Plates steel,
(14) Motor bogies,
(15) Glut rings,
(16) Packing rings for steam brake cylinders,
(17) Laminated bearing springs.

The general supply position of imported stores, *ex*-United Kingdom, improved slightly during the period under review. But owing to lack of raw materials, etc., and London Dock strike, delay occurred in certain cases.

The important items of railways which were crossmandated to Indian Supply Mission, Washington during the period under review were:

(1) Loco spares,
(2) Spares for generators,
(3) Heater elements tubes,
(4) Roller bearings,
(5) Testing machine spares,
(6) Spares for vertical spindle pumps,
(7) Radio transmitter,
(8) Nozzles,
(9) Wireless equipment and spares,
(10) Motor soil lathe and bending machine,
(11) Spares for bull dozer rumps,
(12) Hunt spiller piston rings,
(13) Spares for gasoline engine.

The general supply position of the above stores has been fairly satisfactory.

Indigenous stores.—The position regarding vital items of indigenous sources has been as under:

Wheels, tyres and axles.—As in previous years, Messrs. Tata Iron & Steel Co. are the only indigenous manufacturers of these stores. Their capacity was fully utilized against the Maintenance and Wagon Building Programme of the railways. The indigenous capacity for the manufacture of wheel sets being inadequate to meet the requirements of wagon Building Programme, in full, had to be supplemented by imports.

The Rolling Programme was drawn up every quarter and supplies were arranged on an equitable basis for all the Railways and other private companies commensurate with the urgency of the requirements.

Tyres with inside dia. of 22″ and less are outside the range of indigenous manufacturer and demands for these sizes were crossmandated to Director-General, India Stores Department, London. Non-standard wheels are also not manufactured by Tatas and demands for such wheels were also crossmandated to the Director-General, India Stores Department, London.

Glut rings.—Messrs. The Tata Iron & Steel Co., Ltd., Calcutta are the only indigenous manufacturers but their capacity is limited to 300 (Nos.) per month. Some of the demands in excess of the indigenous capacity were crossmandated to Director-General, India Stores Department, London.

Permanent way materials.—The position of steel supplies continued to remain acute as deliveries were behind by several months from the Mills. There was, however, no dearth of manufacturing capacity.

Machine tools.—A large number of machinery items were obtained through indigenous sources and during the year under review the indigenous purchases alone accounted for nearly 25 per cent of the total purchases. Ministry of Commerce and Industry brought certain more items of machine tools, *e.g.*, universal and horizontal milling machines and lathes up to 11″ centres under the import ban so much so that these items were also purchased through indigenous sources.

Indigenous capacity for copper tubes and other semies was established to a limited extent.

Steel castings.—In order to meet regular demands for a large number of steel castings for Locos from Chittaranjan Locomotive Works, rate contract for most of the items was entered into with five firms from the trade and Director-General, Ordnance Factories operative for a period of five years and one year respectively. This has led to a shortage of capacity in respect of normal demands of Railways for replacement like axle boxes, buffer castings, etc. Action is in hand to assess the indigenous capacity likely to be available in the next few years to plan the requirements in advance and to arrange balance requirements, which cannot be met indigenously by importation.

Train lighting batteries.—The lead acid cells required for the batteries are now being indigenously manufactured and the approximate value of purchases is about Rs. 40 lakhs. Most of the railway requirements are being met from indigenous sources.

The Alkaline Cells, however, are not yet being manufactured and are still being met from imports only.

Railway carriage fans.—The approximate value of annual purchases of Railway carriage fans is of about Rs. 10 lakhs and over. Sufficient capacity exists in the country for indigenous production of the fans and the entire requirements of the railways are being met from indigenous sources.

Train lighting dynamo.—Train lighting dynamos which were previously an imported item are now assembled in India. The approximate value of annual purchase of these stores is Rs. 30/35 lakhs.

Switch gear for train lighting.—Sufficient capacity exists in India for the manufacture of switchgears. The approximate value of annual purchase is nearly about Rs. 15 to Rs. 16 lakhs.

Neale's ball token instruments.—At the moment there are only 2 firms in India manufacturing ball token instruments, *viz.*, Saxby & Farmer and I.E.W. The capacity of these two firms are fully booked up to middle of 1956. To meet the railways' requirements, it has been considered necessary to obtain part supply by imports through Saxby & Farmer. It may be mentioned that this item is an item for which the Railway Board is exploring capacity for the same as a "development item".

V. I. R. Cables.—These are covered by rate contract held by Messrs. Indian Cable Co., Ltd., Calcutta and Messrs. National Insulated Cable Company of India Ltd., Calcutta. Annual drawals on both the firms together is nearly a crore of rupees including the supplies made to the Indian Railways.

The two firms alone were meeting the entire requirements of the Railways and others for the last two years, but of late the demands have been so heavy that these indigenous manufacturers are getting over loaded beyond their capacity.

Railway signalling cables (V. I. R. insulated).—These cables are indigenously manufactured by Messrs. Indian Cable Company Limited, Calcutta, only. Their capacity is much below the present requirements of the Indian Railways, and this makes it necessary to obtain the supplies by imports very frequently.

Annual requirements are estimated at approximately a value of Rs. 15 lakhs.

Cast iron pipes and specials.—The indigenous capacity was very limited and cannot cope with the demands received by the Director-General, Supplies and Disposals. This was particularly so on account of the various schemes being executed under the first Five Year Plan. The available capacity is completely booked till end of 1956. Deliveries against all demands including Indian Railways are, therefore, affected.

120. Position of theft of railway property during 1954-5.—Eleven cases of theft of stores and other valuable materials amounting to Rs. 80,575-10-0 were reported in the course of the year by Indian Railways. Eight of these cases were reported to the police, who after necessary investigation prosecuted, in one case, some staff, who were, however, acquitted by the Court. Departmental action is, however, being taken against the person allegedly responsible for the theft. In two other cases, the police considered some staff responsible, but recommended departmental action. Necessary departmental action is being taken in these cases also. Police investigations are still in progress in the remaining five cases.

Except one out of the 11 cases, which is exclusively under police investigation, in all the other ten cases Departmental Enquiry Committees were also set up. In four cases, the Committees have finalized their enquiries and action has been or is being taken against the staff found responsible. The remaining six cases are still under enquiry.

121. Theft and damage to carriage fittings.—The theft of railway fittings is widespread on Indian Railways. These fittings are stolen not only when the stock is stabled in yards but also from running trains. The main items are water taps, mirrors, wash basins, cushions, rexine cloth, bearing brasses, dynamo belts, fans, lamps, kent couplers and other electrical fittings. It is not always possible to replace promptly the stolen articles and this leads to complaints from the travelling public. Steps are, however, being taken to minimize these thefts as far as possible amongst other things by the reorganization of the Railway Watch and Ward Department into the Railway Security Force.

CHAPTER VIII

STAFF

122. Number of staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto, excluding staff employed on construction at the end of 1954-5 was 985,476 as compared with 963,193 at the end of 1953-4. The total route mileage at the end of the year increased from 34,406 to 34,705.

123. Cost of staff.—The accompanying statement shows the number and cost of all staff, Classes I, II, III and IV, permanent and temporary, open line and construction, employed on Government Railways during the years 1953-4 and 1954-5. The labour employed by contractors is not included.

A comparison of the figures for 1954-5 with those for the previous year shows that the total number of staff employed on the open line of Government Railways increased by 22,137 during the year, while the number of construction staff decreased by 456. The increase in staff is mainly due to increased traffic on Railways, opening of additional crossing stations, expansion of production in Workshops, implementation of Adjudicator's award on Bikaner and Jodhpur divisions of the Northern Railway and the provision of additional leave reserves.

The total cost of staff including that of staff on loan from the Indian Audit and Accounts Service increased by Rs. 5,12,73,580 during the year as compared with the previous year. The increase in cost is chiefly due to increase in the number of staff, annual increments, contribution to Provident Fund and Gratuities, implementation of the Adjudicator's award and Joint Advisory Committee's recommendations.

124. Direct recruitment to Superior Railway Services.—Eighty two appointments were made to the superior railway services by direct recruitment during the year. The details by departments are given below:

Department	Number
(1) Civil Engineering	29
(2) Signal Engineering	4
(3) Electrical Engineering	7
(4) Transportation (Traffic) and Commercial	7
(5) Transportation (Power) and Mechanical Engineering	20
(6) Accounts	6
(7) Stores	4
(8) Medical	5
(9) Others	..
Total	82

125. Promotion to Superior Railway Services.—Forty one promotions were made during the year from Class II and Class III Services. The promotions were made against existing vacancies.

126. Railway Service Commissions.—The Railway Service Commissions with headquarters at Calcutta, Bombay, Madras and Allahabad continued to conduct recruitment of Class III staff for the Railways. The Calcutta Commission recruited 5,956 candidates for the Eastern Railway, the Pandu region of the North Eastern Railway and Chittaranjan Locomotive Works. The Bombay Commission recruited 7,992 for the Central (excluding Secunderabad Division) and the Western Railways. The Madras Commission recruited 2,911 for the Southern Railway, the Integral Coach Factory and the Secunderabad Division of the Central Railway. The Allahabad Commission recruited 6,226 candidates for the Northern Railway, the North Eastern Railway (excluding Pandu Region), the Ganga Bridge Project and the office of Deputy Director, Rail Movement Moghalsarai.

127. Confirmation of temporary staff.—Railway Administrations continued to review temporary posts with a view to making as many of them

NUMBER AND COST OF STAFF ON GOVERNMENT RAILWAYS DURING 1953-4 AND 1954-5

Railway	Year	NUMBER OF STAFF ON 31 MARCH — OPEN LINE — Classes I & II	OPEN LINE — Classes III & IV	OPEN LINE — Total	CONSTRUCTION — Classes I & II	CONSTRUCTION — Classes III & IV	CONSTRUCTION — Total	Staff on loan from the Indian Audit and Accounts Service	†COST OF STAFF DURING THE YEAR ENDING 31 MARCH — Classes I & II	Classes III & IV	Total	Total including staff on loan from the Indian Audit and Accounts Service
Central	1954	382	173,187	173,569	..	..	..	1	50,43,372	24,08,58,488	24,59,01,860	24,59,42,940
	1955	389	179,046	179,435	..	..	..	1	50,64,765	25,02,64,292	25,53,29,057	25,53,53,177
Eastern	1954	540	250,331	250,871	16	224	240	..	68,76,721	36,53,42,003	37,22,18,724	37,22,18,724
	1955	565	252,547	253,112	16	299	315	..	70,20,488	37,20,93,073	37,91,13,561	37,91,13,561
Northern	1954	372	140,155	140,527	12	1,029	1,041	..	44,50,596	19,14,93,280	19,59,43,876	19,59,43,876
	1955	387	143,922	144,309	..	174	174	..	45,33,735	20,02,26,065	20,47,59,800	20,47,59,800
North Eastern	1954	314	112,545	112,859	..	..	..	1	35,84,689	14,63,86,719	14,99,71,408	14,99,80,252
	1955	330	115,204	115,534	..	..	..	1	36,25,239	15,24,66,199	15,60,91,438	15,61,00,357
Southern	1954	356	151,746	152,102	..	244	244	1	44,72,713	19,80,16,181	20,24,88,894	20,25,19,648
	1955	347	152,561	152,908	12	555	567	1	42,40,596	20,48,08,398	20,90,48,994	20,90,98,878
Western	1954	352	116,800	117,152	..	574	574	..	39,73,355	16,31,76,367	16,71,49,722	16,71,49,722
	1955	326	121,811	122,137	..	587	587	..	40,08,936	17,30,40,337	17,70,49,273	17,70,49,273
Railway Board and other Railway offices.	1954	203	9,144	9,347	..	..	..	1	30,49,165	1,40,41,069	1,70,90,234	1,71,41,234
	1955	244	10,885	11,129	..	..	..	1	37,61,218	1,68,84,712	2,06,45,930	2,06,94,930
Total .	1954*	2,519	953,908	956,427	28	2,071	2,099	4	3,14,50,611	1,31,93,14,107	1,35,07,64,718	1,35,08,96,396
	1955	2,588	975,976	978,564	28	1,615	1,643	4	3,22,54,977	1,36,97,83,076	1,40,20,38,053	1,40,21,69,976

* Represents revised figures for 1954 due to changes made by the Railway Administrations in the figures published last year.

† The figures of cost of all Railways represent pay, allowances, passages, provident fund contributions, gratuities and the grainshop concessions.

permanent as possible so as to confirm the temporary eligible staff in available vacancies. The position in this respect during the year under review was as follows:

(i) Total number of temporary posts converted into permanent during the year	15,394
(ii) Total number of temporary staff confirmed during the year	35,430

128. Railway Corruption Enquiry Committee.—The Committee continued their work during the year.

129. Railway and Labour.—The relations between the Railway Administrations and Labour continued to be cordial during the year under review.

National Federation of Indian Railwaymen.—Meetings of the Working Committee of the National Federation of Indian Railwaymen were held on 17 May 1954 and 13 March 1955, at which the Committee passed certain resolutions relating to the Staff Councils, merger of unions of railway employees, and cases referred to the *Ad Hoc* Tribunal, etc.

No quarterly meeting between the Railway Board and the National Federation of Indian Railwaymen was held during the year under review.

130. Permanent Negotiating Machinery for Settlement of Disputes.—The Permanent Negotiating Machinery set up on Railways with effect from 1 January 1952, with a view to maintaining contacts with labour and resolving disputes and differences which may arise between them and the Administration, continued to function during the year. During this period, on all the six Indian Railways, 49 meetings were held at Headquarters level and 1,064 meetings were held at District/Divisional/Workshops level. The subjects discussed covered a wide range. The meetings were conducted in a cordial atmosphere.

At the second tier of the Machinery, however, no quarterly meeting between the Railway Board and the National Federation of Indian Railwaymen was held during this period, as no subject for discussion at a Quarterly Meeting was proposed by the Federation.

Ad hoc Tribunal set up at the third tier of the Machinery.—As mentioned in the Report for the year 1953-4, the National Federation of Indian Railwaymen was to submit the written statement of their demands to the Tribunal by the end of February 1954. They were, however, not able to do this earlier than December 1954. On an examination of this statement of demands, the Railway Board found that most of the items included by the Federation were outside the first term of reference. This fact was, therefore, brought to the notice of the Tribunal in January 1955, and in doing so a list of such items which in the opinion of the Railway Board were held to be outside the purview of the terms of reference, was sent to the Tribunal. The Railway Board submitted their replies to the remaining items in February 1955. The Tribunal, after consulting the parties regarding the date and venue of the meeting, decided that the same should be held at Bombay in April 1955.

131. Railway grainshops.—In view of the decontrol of cereals and the improvement in the supply position of commodities and the consequent fall in their open market prices, which considerably reduced the monetary value of the grainshop concession, Government decided in November 1954 to grant a lumpsum compensatory bonus at the following rates to railway employees who were enjoying the grainshop concessions if they opted out of these concessions and came on to the higher Central Pay Commission rates of dearness allowance:

	Rs.	As.
X Area— (Kanpur, Bombay and Calcutta)	120	0
A Area— (Other towns with a population of over 250,000).	90	0
B Area— (Towns with a population of 50,000 or more but less than 250,000)	60	0
C Area— (All other localities)	30	0

This resulted in a considerable reduction in the number of grainshops, as indicated in the comparative statistics given below:

—	March 1954	March 1955	Remarks
(1) Number of shops functioning			
Static	213	100	Decrease due to reduction in the number of ration card holders.
Mobile	47	35	
Total	260	135	
(2) Number of staff served at the shops			
(a) At concessional rate	160,000	73,000	Decrease due to (i) staff opting out of the grainshops for the lumpsum compensatory bonus (ii) closure of some grainshops due to a fall in the number of customers, served by a particular shop (iii) staff becoming ineligible for grainshop concessions due to their pay reaching Rs. 250/- (iv) normal wastage by retirement, etc.
(b) At controlled rate	92,000	100	Decrease due to withdrawal of the grainshops facility in de-rationed areas.
	252,000	73,100	
(3) Principal articles sold	1953-4 Mds.	1954-5 Mds.	
(a) Cereals—			
(i) At concessional rates	3,286,000	2,472,000	Decrease due to reduction in the number of card holders.
(ii) At controlled rates	763,000	67,000	
(b) Pulses	624,000	451,000	
(c) Cooking oil	281,000	205,000	
	Rs.	Rs.	
(4) Total purchases	10,87,07,000	5,75,59,000	Decrease due to reduction in the number of card holders.
Total sales	4,79,00,000	2,54,87,000	
Cost price of commodities sold	10,83,92,000	5,99,68,000	
Direct loss on sales	6,04,92,000	3,44,81,000	
Indirect loss (cost of staff, freight and other overheads)	1,30,01,000	79,73,000	
(5) The average relief per concessional card holder was as follows:	March 1954	March 1955	
	Rs. As.	Rs. As.	
'X' Area	33 0	26 8	
'A' Area	25 14	22 15	
'B' Area	28 7	23 4	
'C' Area	29 2	22 10	

132. Co-operative Credit Societies and Banks.—The number of railway employees' co-operative credit societies and banks, their membership,

capital, funds and transactions, etc., at the close of the year, are shown in the following table:

(i)	Number of co-operative credit societies and banks	31
(ii)	Membership	456,056
(iii)	Share Capital { Subscribed	Rs. 2,62,40,230
	Paid up	Rs. 2,25,22,286
(iv)	Reserve Fund	Rs. 64,81,125
(v)	Other Funds	Rs. 65,61,669
(vi)	Working Capital	Rs. 17,61,11,157
(vii)	Investment in Government securities, shares and stocks, etc.	Rs. 1,41,70,254
(viii)	Loans to members	Rs. 14,97,26,667
(ix)	Amount of deposits from members	Rs. 10,65,86,418
(x)	Amount of loan borrowed from different sources and the interest paid thereon by fifteen societies at a rate of approximately 4 per cent per annum	Rs. 2,55,12,099

The working of co-operative credit societies and banks on the railways was on the whole satisfactory during the year.

The average rate of interest on loans advanced by these societies to member employees is $6\frac{1}{4}$ per cent per annum. Seventeen societies paid dividend to their shareholders at an average rate of $5\frac{1}{2}$ per cent per annum, while nine societies also paid bonus to their employees, ranging from half a month's to one month's pay. A sum of Rs. 18,000 was paid on account of bonus.

Railway Administrations are giving every possible encouragement to these societies and the following particular facilities have been allowed:

(1) Recovery of dues through pay bills of member employees;

(2) Grant of passes and P. T. Os. to staff;

(3) Allotment of office accommodation at reasonable rent;

(4) Encashment of cheques from the station earnings and disbursement of loans through pay offices;

(5) Grant of special passes and special casual leave to Managing Committee members for attending the Board's meetings.

The officer on special duty (co-operative societies), commenced his investigation into the working of these societies in addition to his duty of organization and supervision of consumer's co-operative societies on Railways, with a view to consolidating their activity and bringing about co-ordination between the two.

133. Railwaymen's Consumer Co-operative Societies.—The number of consumer co-operative societies, their membership, capital, funds and transactions, etc., at the close of the year, are shown in the following table:

(1)	Number of railwaymen's consumer co-operative stores (excluding those registered as joint stock companies and their branches) as on Indian Railways on 31 March 1954	70
(2)	Number of railwaymen's consumer co-operative stores registered during 1954-5	9
(3)	Total membership of the co-operative stores as on 31 March 1955	33,171
(4)	Total working capital of the stores as on 31 March 1955	Rs. 10,29,365
(5)	Total share capital of the co-operative stores as on 31 March 1955	Rs. 3,78,753
(6)	Total reserve fund of the Co-operative stores	Rs. 1,70,822
(7)	Purchases made during 1954-5	Rs. 32,16,204
(8)	Sales during 1954-5	Rs. 35,52,671
(9)	Gross profit for 1954-5	Rs. 2,50,475
(10)	Net profit for 1954-5	Rs. 35,123

The total number of societies which were provided with accommodation up till the end of the year is 60, as against 42 in the previous year.

A sum of Rs. 13,987 was paid by way of subsidy to six Societies while cases of others remained under examination. Steps were taken to see that claims of subsidies by societies were expedited.

Six Co-operative Inspectors (one on each Railway) were appointed during the year to assist the Officer on Special Duty (Co-operative Societies), Railway Board in the organization and supervision of Co-operative Societies on the Railways.

134. Other types of Co-operative Societies.—(a) *Railway employees co-operative insurance/provident societies.*—The number of co-operative insurance/provident societies of railwaymen, their membership, funds and transactions, etc., as on 31 March 1955 were as follows:

(i) Number of the co-operative insurance/provident societies	11
(ii) Membership	136,214
(iii) Reserve Funds	Rs. 7,67,500
(iv) Other Funds	Rs. 10,90,818
(v) Life Funds	Rs. 2,47,50,202
(vi) Premium collected	Rs. 65,73,057
(vii) Claims paid	Rs. 5,04,642
(viii) Claims outstanding	Rs. 2,70,329
(ix) Loans advanced on policies	Rs. 17,90,274

(Information in regard to a Co-operative Insurance Society on the Eastern Railway is not included in items (ii)—(ix) above.)

The societies are mainly undertaking life insurance work, although some of them also provide insurance against accidents, litigation, etc. No control is exercised by the Railway Administrations on their working although certain facilities have been extended to them.

(b) *Railway Employees' Co-operative Housing Societies.*—The number of Co-operative housing societies, their membership, capital and Funds, etc., as on 31 March 1955 are detailed below:

(i) Number of Coperative Housing Societies	5
(ii) Membership	739
(iii) Share Capital	Rs. 73,130
(iv) Reserve Fund	Rs. 277
(v) Other Funds	Rs. 3,25,048
(vi) Total Working Capital	Rs. 3,91,338
(vii) Amount of investment in land	Rs. 2,71,098
(viii) Cost of Superstructures	Rs. 1,77,913
(ix) Amount of deposits	Rs. 2,04,680

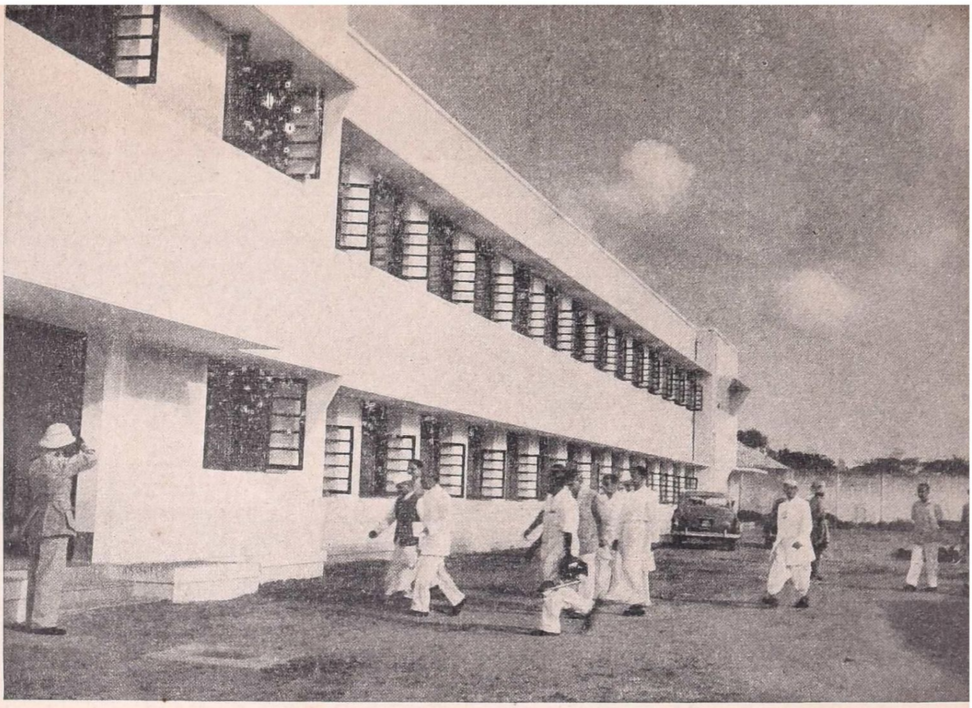
(Information in regard to a Co-operative Housing Society each on the Eastern and Central Railways is not included in items (ii)—(ix) above.)

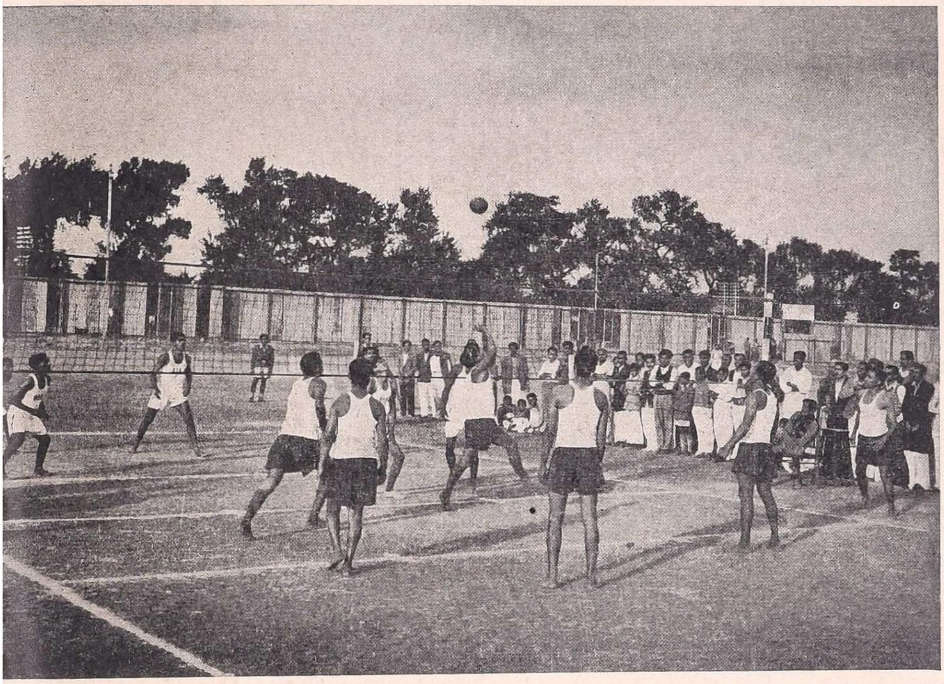
These societies have been organized as a result of the voluntary efforts of railway staff.

135. Labour legislation.—No important labour legislation concerning railway labour was enacted during the year under review.

136. Provision of quarters for railway staff.—Available resources were concentrated mainly on the construction of quarters for the essential category of staff who are required to live near the site of their work and for non-essential categories in places where private accommodation is not available.

CANTEEN BUILDING FOR THE WORKSHOP STAFF, PERAMBUR BEING INSPECTED BY SHRI LAL BAHADUR SHASTRI, MINISTER FOR RAILWAYS.





FINALS OF INTER-RAILWAYS VOLLEY-BALL TOURNAMENT HELD AT LUCKNOW UNDER THE AUSPICES OF THE N. E. RAILWAY ATHLETIC ASSOCIATION.

DISTRIBUTION OF RATION TO RAILWAY STAFF AT BINNAGURI STATION, N. E. RAILWAY CUT OFF BY FLOODS OF AUGUST 1954. THE RATIONS WERE AIR-LIFTED.

During the year, 9,901 quarters for various categories of staff were constructed on Indian Railways and allied establishments:

Railway	Type 'A'	Type 'B'	Type 'C'	Type 'D'	Type I	Type II	Type III	Type IV	Total
1. Eastern	—	—	—	—	2,770	*	728	24	3,522
2. Northern	34	50	16	9	1,321	469	14	32	1,945
3. North Eastern	—	—	—	—	743	414	54	16	1,227
4. Western	—	—	—	—	697	310	5	—	1,012
5 Central	34(a) 32(b)	99	12	—	605	101	8	—	891
6. Southern	847	189	22	2	2	—	—	—	1,062
7. Ganga Bridge Project	—	—	—	—	—	220	6	—	226
8. I.C.F.	—	—	—	—	8	4	—	4	16
9. C.L.W.	—	—	—	—	—	—	—	—	—
Total	947	338	50	11	6,146	1,518	815	76	9,901

* Included in Type III as separate figures for Type II and Type III quarters not available.
(*a*) Single, (*b*) Multi-storeyed.

In addition to the above, 38 type II, 40 type I (family), 30 type I (single), 8 type III and 1 'K' type temporary quarters for the Ganga Bridge Project; 2 officers' flats for the Integral coach Factory, Perambur; 17 officers' bungalows on the North-Eastern Railway and 14 officers' quarters on the Western Railway were constructed.

137. **Activities of the medical department.**—The Medical Departments of the railways continued to look after the health of and provide medical aid to railway servants and their families. In all, 75 well-equipped and adequately-staffed hospitals with 3,226 beds and 411 dispensaries for about 960,000 railway employees and their families provided medical attention and treatment. In addition, the maternity and child welfare centres continued their activities.

The policy in regard to the planned expansion of medical facilities was under consideration during the year. Twelve new dispensaries were constructed and about 250 more beds were provided in railway hospitals.

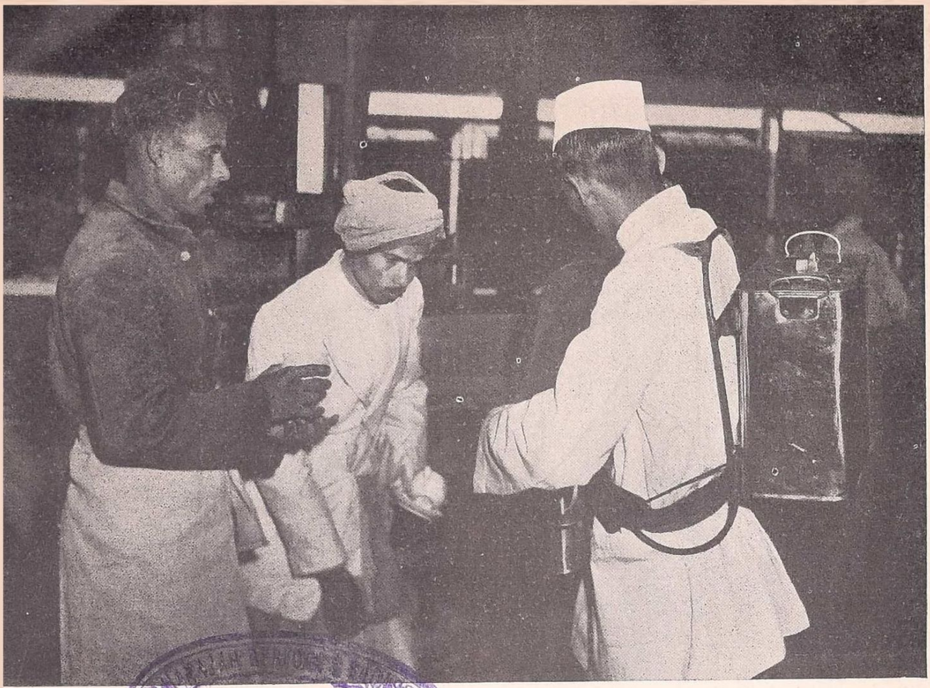
On the basis of the report of the team of officers who were appointed to make recommendations in regard to provision of annexes and special wards for railway patients in certain selected existing T.B. sanatoria in the country for the treatment of T.B. patients amongst railway employees and their families, a start was made to reserve a ward of 24 beds in the K. S. Ray Tuberculosis Hospital, Jadavpur. Negotiations were entered into with the Government of Madras to build an annexe of 20 beds in Government T. B. Sanatorium, Tambaram. It was also decided to reserve 25 beds in the Lady Linlithgow Sanatorium, Kasauli.

Proper sanitary arrangements, maternity and child welfare arrangements, extensive facilities for tuberculine testing, B.C.G. vaccination, X-ray examination, anti-malaria measures and training of staff in 'First-aid' were carried out satisfactorily during the year.

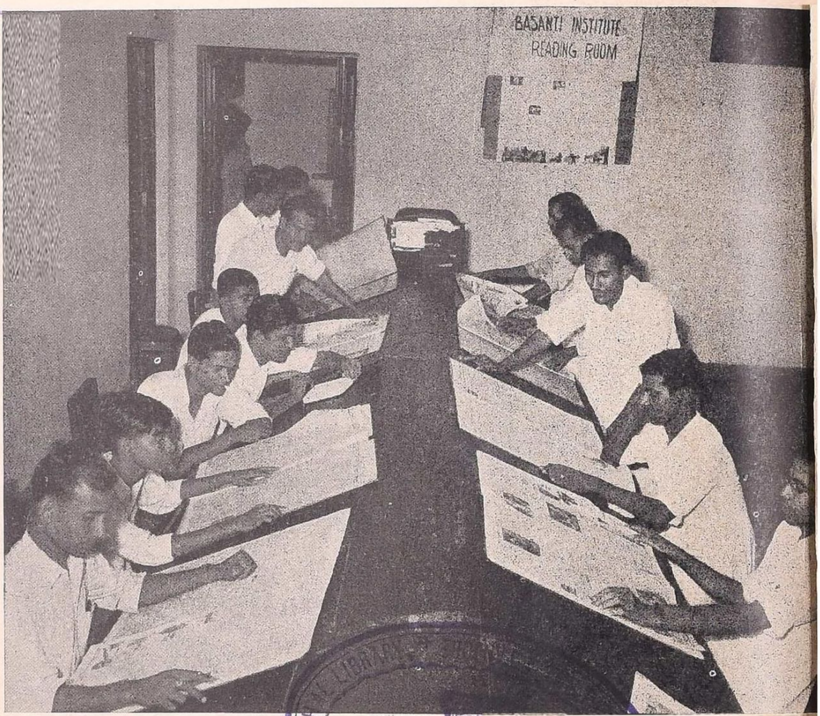
A comparative statement summarizing the activities of the medical departments and showing the up-to-date equipment available on the Indian Railways during the years 1953-4 and 1954-5 is given at page 90.

STATISTICS OF MEDICAL AND HEALTH SERVICES ON INDIAN RAILWAYS FOR THE YEARS 1953-4 AND 1954-5

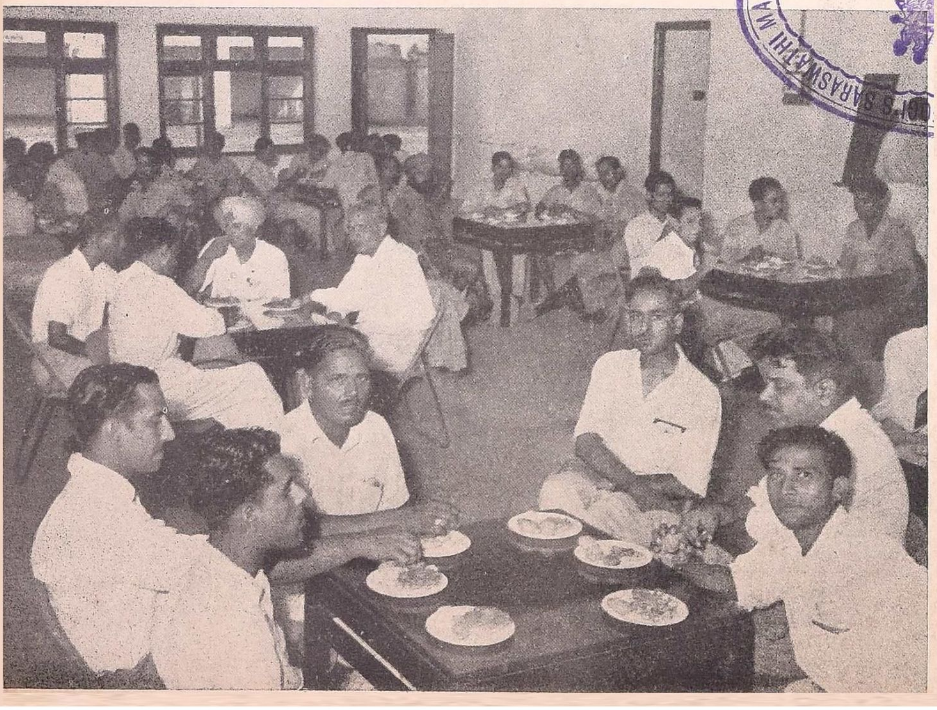
—	Central Railway (1)		Eastern Railway (2)		Northern Railway (3)		North Eastern Railway (4)		Southern Railway (5)		Western Railway (6)		Total (7)	
	1953-4	1954-5	1953-4	1954-5	1953-4	1954-5	1953-4	1954-5	1953-4	1954-5	1953-4	1954-5	1953-4	1954-5
(1) Number of railway staff	173,570	179,436	251,111	253,427	141,568	144,483	112,860	115,535	152,347	153,476	117,726	122,724	949,182	969,081
(2) Cost of medical services Rs.	27,35,523	26,77,123	41,47,000	43,10,000	25,40,951	25,73,252	23,00,000	23,95,000	24,31,660	26,20,000	20,24,383	21,42,924	1,60,79,526	1,67,18,299
(3) Cost of medical services per head of staff per annum Rs.	15·76	14·92	16·51	17·00	17·95	17·81	20·37	20·73	15·96	17·07	17·20	17·46	16·94	17·25
(4) Cost of health services Rs.	29,48,221	30,21,592	52,44,400	57,84,600	35,35,287	38,28,271	30,24,000	35,90,000	18,55,422	19,69,000	13,70,164	14,21,118	1,79,77,494	1,96,14,581
(5) Cost of health services per head of staff per annum Rs.	16·97	16·84	20·88	22·82	24·97	26·50	26·79	31·06	12·18	12·83	11·64	11·57	18·94	20·24
(6) Number of :														
(i) hospitals	12	12	15	18	17	12	11	12	12	13	8	8	75	75
(ii) dispensaries	52	52	109	109	54	65	65	67	64	63	55	55	399	411
(iii) beds	507	521	918	932	460	509	471	532	440	444	273	288	3,069	3,226
(7) Equipment :														
(a) Diagnostic apparatus—														
(i) X-Ray	8	10	19	20	6	8	5	6	6	8	10	12	54	64
(ii) Electrocardiogram	1	1	2	2	1	1	1	1	..	1	2	2	7	8
(b) Electro-medical and physio-therapy—														
(i) Diathermy	3	3	8	9	..	5	3	3	2	2	1	1	17	23
(ii) Short-wave	5	5	3	3	5	3	3	..	..	..	4	3	20	14
(iii) Infra Red	3	23	15	16	6	9	6	4	3	4	20	24	53	80
(iv) Panto-Stat	2	2	1	2	2	1	1	5	1	1	1	1	8	12
(v) Ultra-violet	8	10	12	14	6	6	5	1	2	3	21	27	54	61
(c) Massaging and rehabilitation apparatus	..	..	..	..	..	2	3	3	..	..	3	1	6	6



TEA BEING SERVED TO THE WORKSHOP STAFF, GORAKHPUR AT THEIR PLACE OF WORK THROUGH KNAP-SACK TEA SERVICE WHICH WAS INTRODUCED DURING 1954.



READING ROOM, BASANTI INSTITUTE, CHITTARANJAN



THE WORKS OFFICE CANTEEN, CHITTARANJAN.

138. Railway Staff College, Baroda.—The Railway Staff College has, during the period of more than three years it has been in existence, succeeded in bringing the equipment and organization up to standard. Instruction is at present given to officers of all departments in regular courses of eight weeks duration in subjects, such as, General Rules, Transportation, Commercial, Accounts, Mechanical and Civil Engineering, Model Room Practice, Statistics, Establishment and Railway Law. The regular sessions are for probationers and serving officers in the junior scale. Though it has not been possible as yet to start courses for Senior officers, special courses of lectures of a week's duration are arranged between regular sessions. These special lectures covering selected subjects are delivered by visiting lecturers who are specialists in their line.

During the year, three courses for Probationary officers and two refresher courses for junior officers were held. There were also two special courses of lectures for senior officers, one by Shri R. Krishnaswamy, Deputy Chief Mechanical Engineer, Western Railway, on 'Modern Practice in Shed and Shop Maintenance', and the other for Accounts officers on 'Workshop Costing with particular reference to Machine Costing Processes' by Shri K. S. Bhandari.

The need to extend and improve the equipment and facilities for instruction at the College is receiving constant attention. The Library had about 4,000 volumes at the end of the year, over 1,600 being additions made during 1954-5. All efforts are made to keep the Library up-to-date by adding the latest books and technical magazines on all branches of railway activity. Construction of a new Transportation Model Room has now been completed and an adequately equipped model railway comprising 15 stations is in the process of being erected. The ground floor of the new Model Room building is being equipped as a Museum, housing exhibits of various types of railway equipment and other models of educational value. A start was made when the models released from the Centenary Exhibition Train demonstrating the Belt System of engine repairs in the Khargpur Workshop and the working of the Walschaerts Valve Gear were recently installed. More exhibits released from the Exhibition Trains are likely to be received shortly for display in this Museum. Proposals to instal suitable models of power signalling and automatic colour light signalling are also in hand.

The College has its own 16 mm. Sound Projector for displaying to trainees instructional films on railway subjects, as part of the regular curriculum. A Film Library stocked with suitable films is being built up and 21 films had been acquired by the end of the year.

The College has at present hostel accommodation for 18 students. As the first step towards expanding the scope and activities of the College, additional hostel accommodation is being arranged for 12 trainees and the work is due to be taken in hand shortly. Adequate recreational and sports facilities have been provided and proper arrangements for the maintenance of the colony and grounds and for sanitation and health have been made.

139. Railway schools.—During the year under review, the Railway Board considered the opening of new schools, expansion of existing railway schools and payment of grants-in-aid to educational institutions managed by outside bodies. The railway middle schools at Bareilly and Nainpur were upgraded to high schools and a new primary school was opened at Ambala Cantt. On the Northern Railway, the premises of recreation clubs constructed at two stations on the Chunar-Robertsganj Line were made available to the Government of Uttar Pradesh for running two primary schools for railway employees' children. At present there are 154 railway schools on the Indian Railways.

140. Training schools on railways.—There are at present 24 Training Schools functioning on Railways including one each for Chittaranjan Locomotive Works and the Integral Coach Factory. The number is less

than was indicated in the last year's report, as the smaller schools have been amalgamated with larger units, which were also expanded. Some of these are Traffic Training Schools where recruits are trained in the duties of station masters, signallers, guards, booking and parcel clerks, etc. Refresher and promotion courses for staff already in service are also provided in a number of these schools. Some railway workshops have technical schools attached to them to train apprentices who are intended for eventual appointment as skilled artisans and supervisors in railway workshops and sheds. In some schools, loco running staff and permanent way staff are also trained. In one such school at Jamalpur, special class apprentices recruited through the Union Public Service Commission for eventual appointment as Class I officers in the mechanical and transportation (power) department are also given training. Since the last year's report, Training Schools for the Railway Security Force have been organized on some railways where initial, refresher and promotion courses are held for Sub-Inspectors, Sainiks, Havildars, etc.

In view of the importance of having well trained staff in the Mechanical and Electrical Engineering Departments and the variations which existed in the arrangements of such training on the several railways, the Board decided to review the existing facilities for the purpose of improving them. A committee of railway officers was accordingly appointed in November 1952:

(*a*) to examine and find out the existing requirements of the railways ;

(*b*) to collect information regarding existing facilities for theoretical and practical training of apprentice mechanics and trade apprentices on the railways ;

(*c*) to find out to what extent facilities for theoretical training are available in the technical institution run by the various State Governments, and how far they can be utilized on the Railways ; and

(*d*) to make recommendations regarding improvements which should be effected in existing arrangements to impart both theoretical and practical training on a sounder footing.

The report of the committee has been received and is under consideration of the Railway Board.

CHAPTER IX

AMENITIES FOR PASSENGERS

141. General.—Provision of amenities towards making rail travel more comfortable and safe continued to receive the close attention of Railway Administrations. Works undertaken with this object are particularly watched and progressed with care and adequate financial provision for these is made each year. They comprise provision of model carriages, fans and fittings, improvement of train lighting, opening of new stations and halts, provision of waiting rooms and halls, opening of new booking offices and out-agencies, electrification of stations, raising of platforms, catering arrangements, more improved sanitation of station premises and passenger carriages and sleeping accommodation for III class passengers. Deputy General Managers (Amenities) have been appointed on each of the individual Railway zones to look after the work concerning the passenger amenities with a view to ensuring the minimum standard of various amenities to the travelling public. These officers ensure close liaison between the various departments of the Railway for speedy action on all matters relating to passenger amenities and try to develop a spirit of service among Railway staff.

During the year under review 4,418 fans were fitted in Third class and 663 in Inter class coaches. Some of the important improvements on individual railways are enumerated below.

142. Improved lower class coaches.—Lower class coaches built to improved specifications were put into service during the year, totalling 341 broad gauge, 249 metre gauge and 17 narrow gauge as shown in the table below:

	Broad	Metre	Narrow
Indigenous (All-steel)—			
(*a*) Hindustan Aircraft Limited	163	—	—
Railway workshops—			
(i) Wooden bodied coaches built to improved design	133	176	17
(ii) Furnished in Railway workshop (All-steel coaches)	—	100	—
Foreign—			
(*a*) Furnished in Railway workshops—			
(i) All-steel—Integral design	45	—	—
(ii) All-steel *ex* U. K.	—	6	—
(*b*) Rail cars *ex* Japan	—	12	—
	341	294	17

143. Improvements to coaching stock.—The number of fans fitted in Inter and Third class coaches during 1954-5 totalled 5,081 which were distributed as follows:

Inter class	663
Third class	4,418

These fans were fitted to the following number of coaches:

Inter class	104
Third class	386

In addition, all new Third class coaches are being built to the improved amenity standards with wider seats, better lighting and lavatory arrangements.

144. Booking offices and out-agencies.—Additional booking facilities for the greater convenience of the travelling public were provided at different stations as indicated below.

Eastern Railway.—During the year an additional booking office was opened at Bhubaneswar.

Northern Railway.—City booking offices were opened at Nabha, Ambala Cantonment and Panipat and out-agencies at Hastinapur and Siana Mandi in Meerut city and Garhmukteshwar respectively.

North Eastern Railway.—A new out-agency at Bhagalpur for Mahadeopur Ghat station for goods traffic only was opened on 1 November 1954. Special booking arrangements of rail-*cum*-river-*cum*-rail route *via* Rajmahal Manihari Ghat for the booking of Stone traffic for Kosi Project and *via* Patna Junction-Digha Ghat and Amingaon Ghat/Pandu Ghat for the booking of Grains, pulses, oil seeds, etc., were introduced on this railway.

Southern Railway.—Two out-agencies, one at Kattumannargudi in Chidambaram and the other at Shiralkoppa in Sagara were opened during the year. A town booking office, called the Washermenpet Town booking office, was also opened in Madras for the booking of Passenger and outward goods and parcels. The booking of parcels traffic has been reintroduced at Gadag Town and George Town booking offices in Madras.

Western Railway.—The work of providing new booking offices was completed at Mehsana, Bijainagar, Nasirabad, Khar and Masor Road. Progress was made on the work of providing new booking offices at Charni Road, Nandol, Dehgam, Deesa, Rani, Beawar, Chandisar, Himmatnagar, Sirohi Road, Palanpur, Alwar and Krishangarh. A separate luggage office at Junagadh which was in progress last year was completed during the year.

145. Waiting rooms and waiting halls.—Besides improvements being made to the existing station accommodation, new waiting rooms and waiting halls were constructed at a number of stations during the year.

Central Railway.—An upper class waiting room at Kosikalan and a waiting hall for Third class passengers at Puntamba were provided and the work at Faridabad, Hamirpur Road, Katni, Nagpur, Sholapur and eight other stations is in progress.

Eastern Railway.—Besides improvements and extensions made to 15 stations, new upper class waiting rooms for lady passengers at Katwa, Baruipur and Janai Road, and waiting rooms for general use at Chakulia and Ghatsila were opened. Third class passenger waiting halls were provided at Azimganj City, Sainthia, Kudra, Garpos and Darekasa stations.

Northern Railway.—Waiting halls were provided at eight stations including Sri Anandpur Sahib and Sri Dungargarh. Existing waiting halls at Delhi Serai Rohilla, Maholi and Maigalganj have been extended. At Delhi, Kanpur, Faizabad and 13 other stations the work is in progress.

North Eastern Railway.—New waiting rooms on eleven stations and new waiting halls and passenger sheds at seven stations were provided during the year under review.

Southern Railway.—Besides improvements and extensions being made to a large number of waiting rooms and waiting halls, new upper class waiting rooms at Nidubrole, Tadepalligudem, Ellore and Payyanur, and Third class waiting halls at Chullimada and Ettimadai were provided during the year.

Western Railway.—The work started last year for the provision of new waiting halls for Third class passengers at Paldhi, Amalner, Lolia, Bhonswadi, Salajda, Matod, Santhal and Mangela were completed. The work of providing waiting halls at Ujjain, Ghosrana, Mandal, Choral, Malhargarh, Shedubhar, Pipardi, Kholdia, Mahuva and Takhteshwar was sanctioned and completed during the year. The work of providing new waiting halls conforming to the present standard sanctioned in the year 1953-4 for Sidhpur, Deesa, Narnaul, Falna, Rani, Omkareshwar Road and sanctioned in 1954-5 for Palanpur, Umerdeshi, Himmatnagar, Chandisar, Parisal, Bhupalsagar, Khemli, Bhilwara, Gosunda, Bhimal, Kankroli, Ladpura, Saradhna, Bhagwanpura and Medar were in progress during the year.

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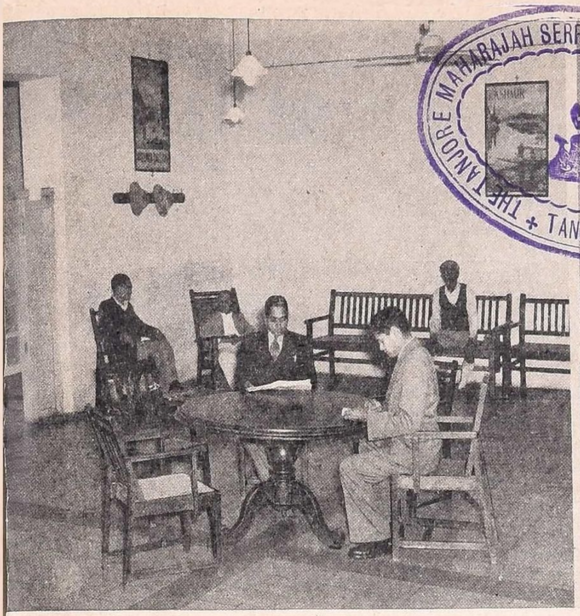

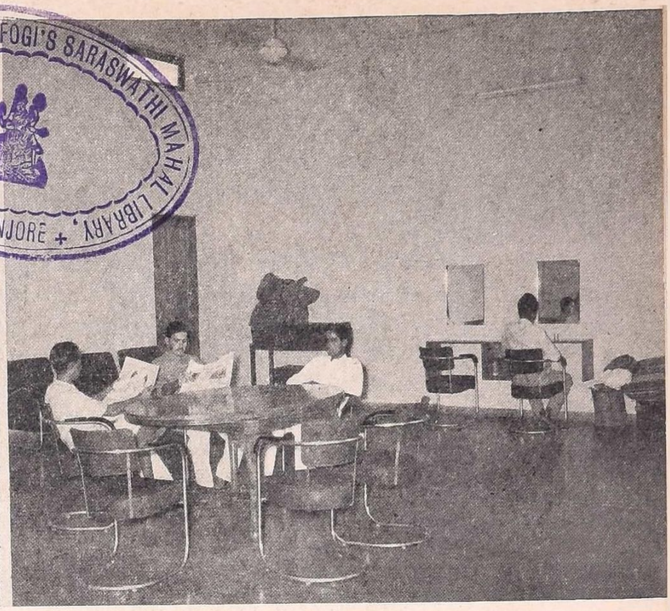

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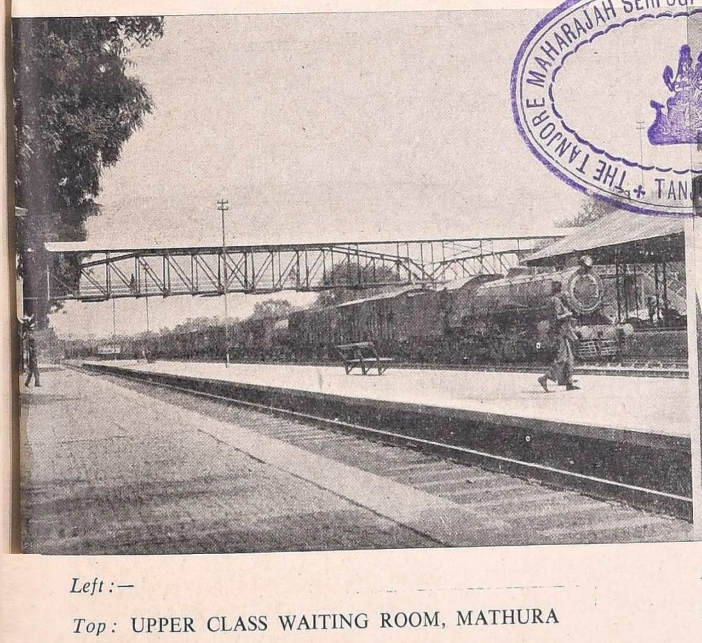
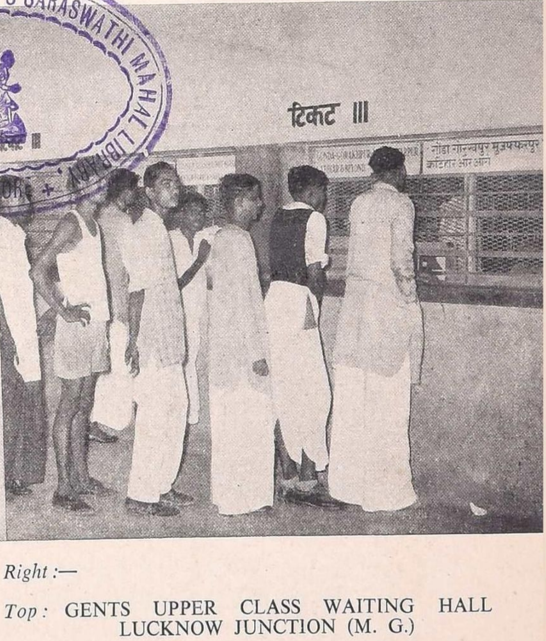




Left:—

Top: UPPER CLASS WAITING ROOM, MATHURA

Centre: INTERIOR VIEW OF 'A' TYPE RETIRING ROOM AT NEW GANDHIDHAM STATION

Bottom: A VIEW OF THE FOOT OVER-BRIDGE CONSTRUCTED RECENTLY AT SUBZIMANDI, DELHI

Right:—

Top: GENTS UPPER CLASS WAITING HALL LUCKNOW JUNCTION (M. G.)

Centre: A BATCH OF GIRL STUDENTS STARTING ON A CONDUCTED TOUR THROUGH INDUSTRIAL CENTRES AND RIVER VALLEY PROJECT AREAS IN BENGAL AND BIHAR

Bottom: NEW BOOKING OFFICE AT LUCKNOW JUNCTION (M. G.)

The work of improving and extending the existing waiting halls at 20 stations was completed while the work at 13 stations is in progress. New Upper class waiting rooms were provided at Ratlam, Dakare, Abu Road, Mehsana and Talod. Work at Amalner was in progress. Improvements to the existing waiting halls was carried out at nine stations.

146. Additional platforms and sheds.—During the year under review improvements continued to be made in regard to the provision of additional platforms, extension and improvements of existing platforms, in respect of their length, surfacing, etc. To provide shelter from sun and rain, additional sheds and covering were provided on a large number of platforms. Besides, additional facilities such as flush lavatories, bathing places, water taps, benches on platforms and in waiting halls, were also provided for the benefit of the travelling public. A summary of the main improvements carried out on the different Railways is given below:

Central Railway.—(i) Surfacing of platforms with concrete, stone, paving, etc., has been completed at Bhandup, Manmad, Nasik Road and 37 other stations, while at Agra Cantonment, Datia, Jhansi and 16 other stations the work is in progress.

(ii) Raising or lengthening of passenger platforms was completed at Vithalwadi, Bhopal, Kalyan and eight other stations while at Khurai, Karjat, Maihar, Nagpur and four other stations the work is in progress.

(iii) Coverings over platforms have been provided at Vithalwadi, Husain Sagar Junction, Narsinghpur and three other stations. At Faridabad, Jabalpur, Katni, Khurai, Maihar and Yadgiri this work is in progress.

(iv) Drinking water huts have been provided at 33 stations and water coolers at five stations, while the work is in progress at 29 stations.

(v) Latrines and urinals have been provided at Dehu Road, Secunderabad and seven other stations. At Jhansi, Aurangabad, Kurnool Town and 12 other stations this work is in progress.

Eastern Railway.—(i) Platform surfacing were cement concreted and generally improved at Canning, Asansol, Krishnagar, Murshidabad and Jiaganj.

(ii) Platforms at nine stations were raised and at nine stations extended.

(iii) Sheds over platforms were provided at 29 stations including Khargpur, Raipur and Rourkela.

(iv) Septic tank latrines were provided at Howrah and Patna Junctions.

(v) Improvements were made to the latrines and urinals at two stations and urinals were provided at four stations.

(vi) New foot over-bridges were provided at two stations and at Jasidih the foot over-bridge was extended.

(vii) Water coolers were provided at seven stations.

Northern Railway.—(i) Covered sheds over platforms have been provided at 14 stations includings Hardwar and Sultanpur while work at 15 other stations is in progress.

(ii) Cement concrete surfacing of platforms has been carried out at Lucknow Charbagh, Ratangarh and five other stations. At Patiala and two other stations the work is in progress.

(iii) Extension, raising and widening of the platforms was carried out at eight stations and at four other stations including Delhi Cantonment the work is in progress.

(iv) R.C.C. Benches have been provided at Kanpur, Hazrat Nizam-ud-Din and many other stations while at Moradabad this work is in progress.

(v) Improvements to the existing latrines at many stations have been carried out with the provision of septic tank latrines etc. At Rura the work regarding provision of septic tank latrines is in progress.

(vi) Drinking water huts have been provided at five stations, water coolers have been provided at Karnal, Kanpur, Panipat and Faizabad stations. At Etawah and Shikohabad the work for providing filtered water supply is in progress.

(vii) Second rail level platforms have been provided on five stations while at Bilwai the work is in progress.

(viii) Island platforms are being provided at Bikaner and Banaras Cantonment stations.

(ix) Works regarding extension of foot over-bridges/providing new foot over-bridges are in progress at Rura, Makhanpur and five other stations. At Jhinjhak the work has been completed.

North Eastern Railway.—(i) Platforms have been covered at Fakiragram, Amingaon and 15 other stations. At 44 stations the work is in progress.

(ii) Improvements to the existing platforms have been carried out at 31 stations while at 59 others this work is in progress.

(iii) Improved type of latrines and urinals have been provided where required at stations, Basti, Kasganj Junction, Karimganj, Langting, Silchar, Katakhal, Badarpurghat, Baraigram, Old Malda. Chaparmukh and Manipur Road. At 34 stations this work is in progress.

(iv) Besides the above, benches have been provided at a number of stations where they were not in existence. The Lucknow Junction building was completely remodelled to provide up-to-date amenities.

Southern Railway.—(i) Additional latrines have been provided at Coimbatore North and 20 other stations while improvements to the existing ones have been effected at eight stations.

(ii) Paving of passenger platforms with cement concrete has been carried out at 13 stations.

(iii) Passenger shelters have been provided at ten stations while work at ten others is in progress.

(iv) Platforms have been extended as required at eight stations while at four others the work is in progress.

(v) Raising of platforms has been completed at four stations while at two others it is in progress.

(vi) Covered platform has been provided for parcels traffic at Coimbatore Junction and a waiting hall with a covered way at Salem Junction.

(vii) A sub-way has been provided for the passengers to gain access to the island platform at Palni.

(viii) The existing rail-level platform at Manamadurai (East) has been widened and gravelled.

(ix) R.C.C. Benches have been provided at 103 stations.

(x) Foot over-bridges between the platforms have been provided at seven stations while roofing has been carried out to the existing foot-over-bridges at Tirumangalam and Tindivanam stations. At Chromepet and six other stations the work is in progress.

(xi) Water coolers have been installed at eight stations.

Western Railway.—(i) Additional latrines were provided at Churchgate and at 19 other stations while improvements to the existing latrines were carried out at 20 stations. At Vyara, Reengus and 18 stations the work is in progress.

(ii) The work with regard to the extension, covering and raising of platforms was carried out at 155 stations, while with the assistance of voluntary labour offered by the students and the staff of M. N. College the passenger platform on the south side was extended by 100 feet at Visnagar. The material required was arranged by the Railway Administration. The villagers of Kadiara offered voluntary assistance for shifting the platform on the opposite side but only a part of the earth work was completed by them. At Miyagam, Ratlam M.G., Virdal Road and at other 80 stations the work is in progress.

(iii) R.C.C. Benches were provided at a large number of stations and work is also in progress at many other stations.

(iv) Foot over-bridges were provided at Kosamba and Bhaldinagar stations.

(v) Water coolers were provided at Nandurbar, Navsari and 11 other stations.

147. Electrification of stations.—Satisfactory progress was also recorded during the year regarding the provision of electric lighting of passenger platforms, station buildings, waiting sheds, approach roads, circulating areas. In all 85 stations were electrified during the year on Indian Government Railways as detailed below:

Railway	No. of stations
Central	7
Eastern	16
Northern	17
North Eastern	8
Southern	29
Western	8
	85

Electrification of 24 stations on the Central, Northern and North Eastern Railways is in progress.

Water coolers have been installed at 37 stations of the Central, Eastern, Northern, Southern and Western Railways. Work at four stations of North Eastern Railway is in progress.

148. Catering arrangements.—A committee consisting of the Deputy Minister as Chairman and the Parliamentary Secretary to the Minister, the Financial Commissioner for Railways and the Member, Transportation, Railway Board, as Members, which had been appointed in the previous year to examine all aspects of catering on Indian Railways and to make recommendations for an all-round improvement, submitted their report in November 1954. The recommendations of the Committee were examined in consultation with the National Railway Users' Consultative Council and later accepted by the Government, and their implementation has since been in progress.

The two important recommendations of the Committee were to introduce departmental catering, with the creation on economic lines of an organization for the purpose on each of the Railways where it did not then exist, for setting the standard and serving as a model, and to reduce the holdings of big contractors to sizeable limits and within compact areas so as to improve the quality of supervision.

Another recommendation of the Committee, which was implemented during the year under review, was standardization of the menu and prices of Indian style meals served from refreshment rooms.

During the year, the use of restaurant and dining cars was thrown open to Inter class (now Second) and Third class passengers during meal hours.

149. Supply of drinking water.—The question of making adequate arrangements for the supply of cool and wholesome drinking water to passengers at stations and on trains continued to receive the special attention of the Railway Administrations.

The Deputy General Managers (Amenities), were specially instructed to give this matter their personal attention.

The normal strength of watermen permanently posted at stations was suitably increased during the hot weather.

A conspicuous feature of the arrangements in this respect was a progressive increase in the number of electric water coolers installed at stations. The number increased from 115 in the previous year to 158 in the year under review.

The scheme of supplying drinking water to passengers in running trains, by employing travelling watermen and utilizing a separate compartment for storing water, which was in force on the Northern and the North Eastern Railways was extended to certain sections of the Western and Central Railways as well.

150. Steps to alleviate overcrowding in trains.—Census of passengers travelling by various trains and over various sections was taken and in sections where overcrowding was prevalent, existing trains were strengthened by attaching additional carriages wherever possible and the trains services augmented by introduction of additional trains, subject to availability of coaching stock, power and line capacity. Special trains were also run during the marriage season and to cater for festival traffic, etc.

The total passenger train mileage run on Indian Railways during the year 1954-5 was 114 million as against 111 million during the previous year, 1953-4. The corresponding figures during the previous three years were as given below and they give some indication of the steps being taken progressively to relieve overcrowding :

1950-1	101 million
1951-2	105 ,,
1952-3	107 ,,

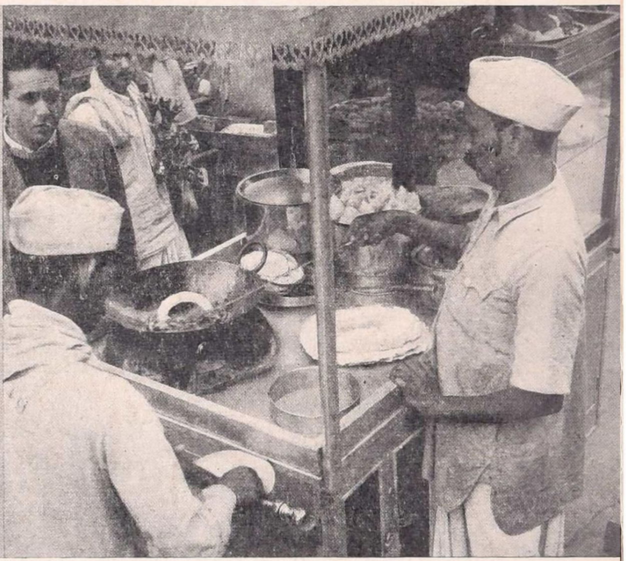
151. Facilities of sleeping accommodation for Third class passengers on important long distance trains.—During the year under review sleeping accommodation in Third Class was, for the frist time, introduced on the Indian Railways on three pairs of broad gauge and two pairs of metre gauge trains. These trains served the main trunk routes in the country, *i.e.*, Delhi-Calcutta, Delhi-Madras, Delhi-Bombay, Delhi-Ahmedabad and Katihar-Lucknow.

On each of the trains on which sleeping accommodation was provided, one Third class coach was set apart for the purpose and a travelling ticket examiner was posted in respect of each sleeper coach for regulating the exit and entry of passengers, as well as for generally looking after the comforts of the passengers travelling in the coach.

A surcharge of Rs. 3 per night or part of a night per passenger is levied for the provision of the sleeping accommodation.

The arrangement is at present experimental, and while on some of the trains the facility was well utilized, on the others the occupation was comparatively poor.

ight : NEW MEHSANA STATION WHICH WAS COMPLETED IN FEBRUARY 1955
low : A VIEW OF THE CONCOURSE AT JULLUNDUR CITY STATION



Above :
THE MOBILE FOOD TROLLEY RECENTLY INTRODUCED ON SOME EASTERN RAILWAY STATIONS SERVING THE PASSENGERS FOOD FRESH AND CRISP, RIGHT FROM THE OVEN ITSELF

NEW THIRD CLASS WAITING HALL, MADURA

152. Actual expenditure under the detailed heads on passenger amenities.—The statement below gives the actual expenditure during 1954-5 on passenger amenities works.

STATEMENT OF EXPENDITURE ON PASSENGER AMENITIES FROM DEVELOPMENT FUND FOR THE YEAR 1954-5

(In thousands of rupees)

Heads	Central	Eastern	Northern	North Eastern	Southern	Western	Total
Water supply at stations	5,50	2,27	1,00	2,67	1,71	1,56	14,71
Waiting rooms and festival sheds.	3,22	3,65	2,34	6,02	4,52	6,01	25,76
Refreshment rooms, retiring rooms and vendor's stall of all description.	1,13	39	36	1,04	1,48	1,03	5,43
Provision and improvement of latrines.	94	51	61	82	72	2,00	5,60
Extending, raising, widening, surfacing, covering and other improvements including provision of seats plantation, etc., at platforms.	21,19	15,73	13,67	19,19	6,84	16,39	93,01
Provision of new over-bridges and sub-ways and extension.	82	1,80	4,01	—	1,33	74	8,70
Provision of bathing facilities at stations.	14	1	6	9	2	13	45
Improved station approaches including improved lighting.	2,29	22	1,28	1,31	2,75	1,35	9,20
Improvement to existing carriages such as fans.	73	14,71	4,86	10,16	13,17	14,68	58,31
Improved lighting and provision of fans for station platforms, waiting halls, festival sheds and vendor's stalls.	3,22	5,15	4,89	32	1,89	79	16,26
Works coming under all these heads provided in connection with *melas*.	20	(—)3	7	3	—	1	28
Any other works considered essential.	5,76	2,45	13,82	9,56	4,75	28,66	65,00
Credit for released material .	(—) 3	—	—	—	—	—	(—) 3
TOTAL .	45,11	46,86	46,97	51,21	39,18	73,35	3,02,68

CHAPTER X

ACCIDENTS

153. Railway Accidents Enquiry Committee-1954 and the Reviewing Committee appointed to review the Report of the Railway Accidents Enquiry Committee-1954.—It was indicated in para. 159 of the Report for the previous year that the Railway Accidents Enquiry Committee—1954, was expected to submit its report to the Minister for Railways by the end of April 1954. The Report was accordingly submitted by the Committee on 30 April 1954. Before an examination of the Report by the Railway Board had been completed, some Members of the National Railway Users' Consultative Council, at the meeting held at Delhi on 19 July 1954, expressed a desire that some non-officials should also be associated with the examination of the report and the recommendations.

A Reviewing Committee was accordingly constituted in August 1954 for reviewing the various observations and recommendations made in the Report of the Railway Accidents Enquiry Committee—1954. The committee consisted of the following :—

(1) Shri Shah Nawaz Khan, Parliamentary Secretary to the Minister for Railways	Chairman.
(2) Shri F. C. Badhwar, Chairman, Railway Board	Member.
(3) Shri T. S. Pattabiraman, Member, Council of States	Member.
(4) Shri L. P. Misra, Member, National Railway Users' Consultative Council	Member.

The Reviewing Committee submitted its report to the Minister on 30 October, 1954, recording therein *inter alia* their own observations on each of the 183 items of observations and recommendations contained in the report of the Railway Accidents Enquiry Committee—1954.

In accordance with the direction of the Minister for Railways, the Report and recommendations of the Reviewing Committee were next examined in detail by the Adviser to the Railway Ministry, taking into consideration the views of the General Managers of all the Railway Administrations and the Railway Board. The Adviser's Memorandum, together with an annexure containing his comments, which later constituted the decision of the Ministry of Railways in respect of the acceptance or otherwise of each of these 183 items referred to, was submitted by him to the Minister in January, 1955.

This Memorandum was duly accepted by the Minister and instructions were immediately issued by the Railway Board to the Railways to proceed to take action for the implementation of the recommendations, etc., on the lines indicated in the Memorandum. Some items which required pursuing by the Railway Board have also been taken up by them.

154. Major Accidents.—The details of major accidents which occurred during the year are given below:

On 17 August, 1954, while No. P. 78 Down Troop Special was running between Kurlasi and Bhawani Mandi stations on the Ratlam-Kotah section of the Western Railway, the first wagon next to the engine on the train derailed and travelled in that condition for about half a mile up to a girder bridge where it damaged the permanent way and the structure of the bridge, leading to the derailment of another wagon and capsizing of seven more. Three of the 15 military coaches on the train also derailed. Eleven persons were killed and thirty four injured. The approximate cost of damage to rolling-stock permanent way and the bridge was Rs. 1,58,500. The derailment was caused by the breakage of the left trailing journal of the wagon which first derailed.

On 27 September 1954, while No. 319 Down Express was running over bridge No. 393 spanning the river Yeswantapur, between Jangaon and Raghunathpalli stations on the Secunderabad-Kazipet section of the Central Railway, the bridge collapsed under the passing train. Four of the seven coaches on the train fell into the flooded river. The engine passed over the bridge safely, after parting from the rest of the train, while the two leading and the seventh coaches derailed and stood on the embankment. 135 dead bodies were recovered, some at the site and some from the river down stream. 88 persons were injured of whom also one died. The approximate cost of damage to rolling-stock, permanent way and the bridge was Rs. 3,80,500. The accident was caused by failure of the bridge due to sinkage of two of its piers as a result of scour at their foundations which were not deep enough to withstand the abnormally heavy and sudden floods on the fateful night caused by rainfall in the catchment area.

On 7 February 1955, while No. 450 Down Passenger train was running between Saithal and Bhojeepura stations on the Lucknow-Bariélly section of the North Eastern Railway, the engine and all the nine coaches on the train derailed, three of which completely capsized. Four persons were killed and 18 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 50,900. The derailment was caused by the breakage of the left driving journal of the engine of the train.

155. Review of Accident Statistics.—The following statement analyses under certain principal heads the accidents which occurred during the last two years. A statement showing the character and extent of accidents in greater detail for each railway will be found in Appendix D of Volume II of this report.

There has been a decline in the number of accidents on open line of Indian Railways during the year 1954-5 as compared with the previous year, *viz.*, from 11,450 to 10,644 or a decrease of 7 per cent. The increase in the total train miles was at the same time of the order of three per cent. Thus despite an increase in train mileage the incidence of accidents has been lower.

ACCIDENTS DURING 1953-4 AND 1954-5 CLASSIFIED UNDER PRINCIPAL HEADS

	1953-4	1954-5
(1) Running over cattle	3,722	3,318
(2) Accidents due to failure of engines, owing to faulty material, workmanship and operation arising from the working of the running staff	2,248	1,997
(3) Accidents due to failure of coupling and draft gear	1,715	1,631
(4) Accidents due to failure of engines owing to faulty design, material and workmanship in the mechanical department	1,093	1,059
(5) Derailments not involving passenger trains	1,075	1,046
(6) Fires in trains, at stations and bridges	256	263
(7) Derailments of passenger trains	235	245
(8) Accidents due to other rolling-stock failures	205	150
(9) Flooding of permanent way	61	147
(10) Running over obstructions (other than those included under 'train wrecking' 'attempted train wrecking' and 'trains running into road traffic at level crossings')	128	144
(11) Trains running into road traffic at level crossings	104	120
(12) Attempted train wrecking	91	92
(13) Collisions involving goods trains or goods vehicles	63	72
(14) Collisions involving passenger trains	25	29
(15) Broken rails	45	25
(16) Landslips	12	18
(17) Accidents due to failure of axles	30	15
(18) Passenger trains running in the wrong direction through points but not derailed	25*	8
(19) Accidents due to failure of tyres and wheels	7	6
(20) Collisions between light engines	5	4
(21) Accidents due to failure of brake apparatus	3	3
(22) Failure of bridge, tunnels, etc.	4	3
(23) Train wrecking	4	1
(24) Miscellaneous	294*	248
TOTAL	11,450	10,644

* Revised figures.

Running over cattle still accounts for the largest number of accidents. The percentage of the accidents by categories to total are given below in the descending order of their number :—

	Per cent
Running over cattle	31
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	19
Accidents due to failure of couplings and draft gear	15
Accidents due to failure of engines owing to faulty design, material and workmanship in the mechanical department	10
Derailments not involving passenger trains	10
Fires in trains at stations and bridges	2
Derailments of passenger trains	2
Accidents due to other rolling-stock failures	1

Accidents in railway workshops accounted for the death of seventeen and injuries to 19,185 railway servants or an increase of 11 in the former and 72 in the latter as compared with the previous year.

The number of passengers, railway servants and other persons killed and injured in accidents on Indian Railways exclusive of casualties in railway workshops during 1954-5 as compared with the previous year may be seen from the table below:

NUMBER OF PERSONS INJURED IN ACCIDENTS ON ALL RAILWAYS DURING 1953-4 AND 1954-5

Classification	Killed		Injured	
	1953-4	1954-5	1953-4	1954-5
A.—Passengers—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	128	**147**	381	**303**
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	316	**307**	3,073	**2,970**
(c) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	1	**1**	96	**154**
TOTAL	445	**455**	3,550	**3,427**
B.—Railway servants—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	66	**26**	176	**235**
(b) In accidents caused by the movement of trains and railway vehicles exclusive of train accidents.	165	**127**	5,798	**5,323**
(c) In accidents on railway premises in which the movement of trains, vehicles, etc., was not concerned.	47	**27**	16,334	**16,793**
TOTAL	278	**180**	22,308	**22,351**
C.—Other than passengers and railway servants—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	15	**48**	64	**163**
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents.	3,935	**3,733**	1,990	**1,829**
(c) In accidents on railway premises in which movement of trains, vehicles, etc., was not concerned.	12	**23**	71	**131**
TOTAL	3,962	**3,804**	2,125	**2,123**
GRAND TOTAL	4,685	**4,439**	27,983	**27,901**

Of the total of 4,439 persons killed, 3,804 or 86 per cent were other than passengers and railway servants and of this number, 3,038 were trespassers and 378 were suicides. Altogether 51 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

As compared with the previous year, the number of persons killed and injured in accidents to trains, rolling-stock and permanent way, etc., increased as follows, due to heavy casualties in the major accidents described in the preceding paragraph of this report:

	Killed	Injured
Passengers	19	—
Railway servants	—	59
Others	33	99

In accidents on railway premises not connected with the movement of trains, railway vehicles, etc., the number of passengers injured increased by 58 due to miscellaneous causes. The number of railway servants injured increased by 459 due mainly to increased casualties while attending to stationary engines in sheds and while working on the line and in sidings. The number of persons other than passengers and railway servants killed increased by 11 due to miscellaneous causes and those injured increased by 60 due mainly to increased casualties while loading, unloading and sheeting of wagons.

The following statement shows the number of passengers killed and injured in train accidents only, *i.e.*, collisions, derailments, etc., during the last five years as compared with the number carried.

NUMBER OF PASSENGERS KILLED AND INJURED IN TRAIN ACCIDENTS ON ALL RAILWAYS FROM 1950-1 TO 1954-5

Year	No. of passengers carried (in millions)	Killed		Injured	
		Number†	Per million passengers carried	Number†	Per million passengers carried
1950-1	1,308	21	0·02	284	0·22
1951-2	1,232	38	0·03	290	0·24
1952-3	1,212*	54	0·04*	339	0·28*
1953-4	1,220	128	0·10	381	0·31
1954-5	**1,259**	**147**	**0·12**	**303**	**0·24**

* Revised figures.
† Excludes train wrecking and attempted train wrecking.

On the Government Railways, the main causes for the accidents to railway servants caused by the movement of trains and railway vehicles exclusive of train accidents, are analysed in the following table:

CLASSIFICATION OF ACCIDENTS TO RAILWAY SERVANTS ON GOVERNMENT RAILWAYS

Cause	Killed		Injured	
	1953-4	**1954-5**	1953-4	**1954-5**
(1) Misadventure or accidental	146	**112**	5,352	**4,904**
(2) Want of caution or misconduct on the part of the injured person	16	**8**	408	**400**
(3) Want of caution or breach of rules, etc., on the part of railway servants other than the persons injured	1	**4**	19	**11**
(4) Defective apparatus, appliances, etc., or want of sufficient appliances, safeguards, etc.	—	**1**	2	—
TOTAL .	163	**125**	5,781	**5,315**

156. Appointment of Claims Commissioners.—During the year under review three Claims Commissioners were appointed in respect of the following major accidents:

(i) Explosion in a Third class compartment of 313 Katihar Passenger on 31 March 1954 at Jagatbela, on the Gorakhpur-Lucknow Section, North Eastern Railway.

(ii) Derailment of 344 Down Patna passenger train on 2 May 1954 between Chanpatia to Bettiah stations on the Muzaffarpur-Narkatiaganj Section, North Eastern Railway.

(iii) Derailment of 319 Secunderabad-Kazipet Express on 27 September 1954 between Jangaon and Raghunathpalli stations, Central Railway.

The Claims Commissioner, Gorakhpur, disposed of 44 claims decreeing Rs. 36,682, the Claims Commissioner, Motiahari, 24 claims decreeing Rs. 4,339-12-11 and the Claims Commissioner, Hyderabad, 159 claims upto the end of March 1955 decreeing Rs. 4,25,824-15-3. In addition, the other Claims Commissioners appointed during the previous years continued to dispose of outstanding cases not disposed of in those years.

APPENDIX A

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and Convention Resolutions of 1943 and 1949.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways,

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve, provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before

the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it should give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railways to company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organization of the Stores Purchase Department of the Government of India."

Convention Resolution of 1943

The Legislative Assembly on 2 March 1943 passed the following resolution:—

"Whereas it has been found that the Convention, which was adopted under the Assembly Resolution, dated 20 September 1924, and which was intended to relieve the General Budget from violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State, has not achieved these objects, this Assembly recommends to the Governor General in Council that:

(i) for the year 1942-3, a sum of Rs. 2,35,32 thousand shall be paid to general revenue over and above the current and arrear contribution due under the Convention,

(ii) from 1 April 1943, so much of the Convention as provides for the contribution and allocation of surpluses to general revenues shall cease to be in force,

(iii) for the year 1943-4, the surplus on commercial lines shall be utilised to repay any outstanding loan from the depreciation fund and thereafter be divided 25 per cent to the railway reserve and 75 per cent to general revenues, the loss, if any, on strategic lines being recovered from General Revenues, and

(iv) for subsequent years and until a new convention is adopted by the Assembly, the allocation of the surplus on commercial lines between the railway reserve and general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic lines being recovered from general revenues."

Convention Resolution of 1949

The Constituent Assembly of India (Legislative) on 21 December 1949 passed the following resolution:—

"This Assembly, after considering the recommendations of the Committee appointed by it in April 1949 to review the Convention relating to the separation of railway from general finance which was adopted under the Assembly Resolution, dated 20 September 1924, and in supersession of that and all other previous resolutions on the subject, resolve:—

(1) that railway finance shall continue to remain separated from general finance;

(2) that the general tax-payer shall have the status of the sole shareholder in the railway undertaking;

(3) that on the capital invested out of general revenues in the railway undertaking as computed annually, general revenues shall receive only a fixed annual dividend ;

(4) that for a period of five years, commencing from 1950-1, the annual dividend, shall be a sum calculated at the rate of 4 per cent on the capital invested provided that no dividend shall be payable on the capital invested out of general revenues in unremunerative strategic lines ;

(5) that a Committee of the House shall review the rate of dividend towards the end of the aforesaid period and suggest for the years following it any adjustment considered necessary, having regard to the revenue returns of the railway undertaking, the average borrowing rate of government and any other relevant factors ;

(6) that the existing railway reserve shall be renamed the Revenue Reserve Fund and utilised primarily for maintaining the agreed payments to general revenues and for making up any deficit in the working of the railways ;

(7) that a Development Fund shall be constituted for financing expenditure for the following purposes:—

(*a*) passenger amenities,

(*b*) labour welfare, and

(*c*) railway projects which are necessary, but unremunerative ;

(8) that for meeting the cost of replacement and renewal of assets, the Depreciation Reserve Fund shall receive, for the next five years, a minimum contribution of Rs. 15 crores per annum chargeable to the working expenses of the undertaking ;

(9) that the railway surplus shall be available for distribution amongst the Revenue Reserve Fund, the Development Fund, and the Depreciation Reserve Fund to the extent the last-named needs strengthening over and above the minimum annual contribution ;

(10) that a Standing Finance Committee for Railways and a Central Advisory Council for Railways shall be constituted in the manner laid down in the motion adopted by this House on 23 March 1949 ;

(11) that the annual estimates of railway expenditure shall be placed before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demands for grants for railways by the Assembly ; and

(12) that the Railway Budget shall be presented to the House, if possible, in advance of the general budget and separate days shall be allotted for its discussion and the Minister for Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the Railway Budget, including the appropriation to the Depreciation Reserve Fund, the Development Fund, and the Revenue Reserve Fund shall be placed before the House in the form of demands for grants. The form the budget shall take, the details it shall give, and the number of grants into which the total vote shall be divided, shall be drawn up by the Ministry of Railways in consultation with the Standing Finance Committee for Railways.

2. This Resolution shall come into force from 1 April 1950."

Convention Resolution of 1954

The following Resolution was passed by the Lok Sabha at its sitting on Thursday, the 16 December 1954:—

Resolution

"That this House approves the recommendations contained in the Report of the Committee appointed to review the rate of dividend at present payable by the Railway Undertaking to General Revenues as well as other ancillary matters in connection with the separation of Railway Finance from General Finance, which was presented to Parliament on 30 November 1954."

The Resolution was adopted in the Rajya Sabha in the following form on the 21 December 1954:—

"That this House approves the recommendations contained in the Report of the Committee appointed to review the rate of dividend at present payable by the Railway Undertaking to General Revenues as well as other ancillary matters in connection with the separation of Railway Finance from General Finance, which was presented to Parliament on the 30 November 1954."

2. The summary of the principal recommendations of the Railway Convention Committee, 1954, as contained in its report dated 30 November, 1954 are as follows:—

(1) It would be advantageous from all points of view to express the rate of dividend in terms of a percentage on the Capital-at-Charge and the amount paid annually through a fixed rate of dividend inclusive of the element of interest.

(2) The present rate of dividend should remain unaltered for another period of 5 years. However, the Committee feel that in the matter of calculation of the Capital-at-charge and arriving at the total of the dividend payable, some minor adjustments are called for.

(3) The element of over-capitalization should be precisely assessed by the Railway Board and on that portion of the loan capital, the Railways shall pay the dividend at the rate equivalent to the average borrowing rate charged by the Government of India to Commercial Departments from year to year.

(4) The dividend on the Capital-at-charge of new lines should be computed at a lesser rate, *viz.*, the average borrowing rate charged to Commercial Departments and a moratorium should be granted in respect of the dividend payable on the Capital invested on the new lines during the period of construction and upto the end of the fifth year of their opening for traffic, the deferred amount being repaid from the sixth year onwards in addition to the current dividend out of the net income of the new lines.

(5) The annual contribution to the Depreciation Reserve Fund which had been maintained at a level of Rs. 30 crores during the five year period ending the 31 March, 1955 should be raised to Rs. 35 crores during the next quinquennium.

(6) The Committee recognise that the appropriation to the Development Fund and the solvency of the Fund are dependent on the availability and the size of the surplus, while the provision for depreciation should be based on the life of the assets, and their replacement on the actual conditions which cannot be deferred, if their earning potential is to be maintained. They, therefore, feel that the replacement of these assets should bear no relationship with the ultimate loss or gain of the Undertaking but should be met out of the Depreciation Reserve Fund.

(7) The Committee are in favour of extending the scope of the Development Fund so as to include amenities for all "users of Railway transport", such as improvement to goods sheds, loading and unloading platforms, waiting sheds for the trading public, etc., which they consider as absolutely essential and recommend the continuance of the present practice of earmarking a minimum of Rs. 3 crores per annum on this account.

(8) The Railway Board should look into the matter of assessment of rent realised for Railway quarters and ensure that a return of rent more commensurate with the capital cost is obtained on all residential buildings built for Class III staff.

(9) The Committee are anxious that the primary amenity which the Railways must provide is that of safety of travel. They, therefore, desire that the expenditure on Safety Works should be given due priority in any allocations of funds from the Development Fund over the next few years.

(10) The Committee agree with the Railway Board that the distinction of splitting up of expenditure on works between Development Fund and Revenue for the purpose of allocation is unnecessary. The allocation should be determined as in the case of other works according to the total outlay expected on each work. The expenditure on unremunerative operating improvement works costing more than Rs. 3 lakhs each should be charged entirely to Development Fund.

(11) The cost of construction of all new lines when decided to be constructed might be debited to Capital from the very beginning.

(12) In the event of the Development Fund not being in a position to meet the programme of expenditure chargeable to that Fund from its own resources, money should be advanced from General Revenues to the Railways for utilisation on those Projects or Works which are of a developmental nature. Such advances should be treated as Temporary Loans to the Railways and will not be added to the Capital-at-charge on which 4 per cent dividend is payable annually. The Railways will pay interest on this loan to General Revenues at the average borrowing rate chargeable to Commercial Departments. It shall, however, be open to the Railways to repay this loan in instalments, if necessary, from accretions to the Development Fund in more prosperous years and thus liquidate the debt and the interest liability thereon.

(13) In view of the fact that the annual loss on working of strategic lines is insignificant, the Committee consider that the suggestion made by the Railway Board whether the operating loss on strategic lines should not be deducted from the contribution calculated for payment to General Revenues on non-strategic lines should not be pressed for a decision now, but brought up before the next Convention Committee, if the loss on this account is sizeable.

(14) The criterion for classifying a project as remunerative should be 5 per cent.

(15) While the Committee agree that amortisation would eventually be of benefit to the Railways and the users of Railway transport alike, they agree with the Railway Board that the time is not yet ripe for amortisation; they would, however, suggest that this question may be taken up at the time of next revision of the Convention.

(16) The Committee consider that in the present financial prospects, it will be idle either to prescribe any minimum limit for the balance in the Revenue Reserve Fund or to extend its scope so as to include amortisation of Capital and this should wait till better days come.

(17) A Parliamentary Committee should review the rate of dividend towards the end of the next quinquennium and suggest for the years following it, any adjustment considered necessary, in the light of the situation obtaining then.

(18) It would be enough if the Ministry of Railways submitted a review on the general working of the Railways during these five years to the next Convention Committee for their consideration.

APPENDIX B

MINISTRY OF RAILWAYS

Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1955

Shri Lal Bahadur Shastri, Minister for Transport and Railways

Shri O. V. Alagesan, Deputy Minister for Transport and Railways

Railway Board

Shri G. Pande	Chairman, Railway Board
„ S. S. Vasist	Adviser to the Railway Ministry
„ P. C. Bhattacharyya	Financial Commissioner for Railways
„ P. C. Mukerjee	Member (Engineering)
„ K. P. Mushran	Member (Staff)
„ K. B. Mathur	Member (Transportation)
„ P. Morris	Director, Mechanical Engineering
„ N. K. Roy	Director, Civil Engineering
„ N. C. Deb	Director, Finance (Expenditure)
„ S. R. Kalyanaraman	Director, Traffic (General)
„ D. P. Mathur	Director, Finance (Accounts)
„ N. Kamalakara Rao	Director, Establishment
„ Ranjit Singh	Director, Traffic (Transportation)
„ S. L. Saksena	Director, Railway Equipment
„ B. C. Malik	Director, Rail Movement, Calcutta
„ L. A. Natesan	Economic Adviser
„ K. V. Kasturi Rangan	Joint Director, Finance (Expenditure)
„ D. R. Suri	Joint Director, Traffic (General)
„ Anand Mohan	Joint Director, Traffic (Transportation)
„ R. E. de Sa	Joint Director, Civil Engineering
„ L. T. Madnani	Joint Director, Mechanical Engineering
„ V. T. Narayanan	Joint Director, Establishment
„ D. U. Rao	Joint Director, Finance (Budget)
„ D. Sandilya	Joint Director, Railway Planning
„ H. D. Awasty	Joint Director, Civil Engineering (Planning)
„ P. H. Sarma	Joint Director, Traffic (Planning)
„ P. Sahai	Joint Director, Mechanical (Planning)
„ G. G. Mirchandani	Joint Director, Public Relations
„ A. Hildreth	Secretary
„ Y. T. Shah	Deputy Director, Finance (Expenditure)
„ A. J. Cunningham	Deputy Director, Finance (Accounts)
„ R. Srinivasan	Deputy Director, Establishment I
„ S. S. Kapur	Deputy Director, Traffic (Transportation)
„ M. L. Mukerjee	Deputy Director, Finance (Expenditure)
„ G. Bhattacharjya	Deputy Director, Statistics
„ I. C. Bhatt	Deputy Director, Tele-Communication
„ A. K. Sarkar	Deputy Director, Rail Movement, Moghalsarai
„ J. L. Dutta Gupta	Deputy Director, Rail Movement, Calcutta
„ B. R. Kinra	Deputy Director, Railway Equipment I
„ Sudershan Lal	Deputy Director, Railway Equipment III
„ Arya Bhushan	Deputy Director, Civil Engineering
„ M. V. Bhavnani	Deputy Director, Traffic (General)
„ Parshotam Lal	Assistant Secretary
„ P. M. Narasimhan	Assistant Director, Establishment I
„ P. S. Doraiswamy	Assistant Director, Establishment II
„ Kunwar Bahadur	Assistant Director, Establishment III
„ K. Jayaram	Assistant Director, Accounts (Inspection)
„ V. Sriraman	Assistant Director, Traffic (Commercial)
„ A. Mascarenhas	Assistant Director, Railway Equipment

Railway Board—contd.

Shri M. V. S. Sarma	Assistant Director, Statistics (Inspection)
„ R. R. Bhanot	Assistant Director, Statistics (History)
„ A. C. Ahuja	Special Assistant to Chairman, Railway Board
„ Sahib Singh	Assistant Accounts Officer
„ Ram Murti Singh	Hindi Officer

Attached Officers

Shri M. M. Lal	Officer on Special Duty (Transportation Power)
„ J. K. Verma	Officer on Special Duty (Co-operative)
„ G. C. Sen	Officer on Special Duty (Forms Standardization, Calcutta)
„ Sunder Lal	Officer on Special Duty (Forms Standardization II, New Delhi)
„ Rajinder Dev	Officer on Special Duty (Efficiency Bureau)
„ A. N. Kapur	Officer on Special Duty (Traffic Manual)
„ S. L. Jaini	Officer on Special Duty (Establishment Code Revision)
„ F. C. Badhwar	Officer on Special Duty
„ B. S. Gidwani	Secretary, *Ad hoc* Tribunal

Superintendents

Shri Ram Singh	Budget Branch
„ J. R. Anand	Establishment I Branch
„ Rup Lal	Establishment II Branch
„ P. B. Jain	Establishment III Branch
„ S. Sivaraman	Establishment IV Branch
„ Tara Chand	Establishment (Code) Branch
„ G. R. Venkataraman	Establishment (Special) Branch
„ R. R. Hariharan	Finance (Establishment) Branch
„ D. C. Rewari	Finance (Expenditure) I Branch
„ Suraj Parshad	Finance (Expenditure) II Branch
„ Gurmukh Singh	Finance (Special) Branch
„ Hira Lal	General Branch
„ R. N. Pershad	Mechanical Branch
„ S. K. Srivastava	Preferential Traffic Branch
„ B. N. Soni	Railway Equipment Branch
„ S. V. Ramasubban	Traffic (Commercial) Branch
„ A. N. Sheopory	Traffic (Transportation) Branch
„ G. Rangaswamy	Traffic (General) Branch
„ K. D. Ganguly	Works Branch
„ S. K. Ramanathan	Budget (Committee) Branch
„ T. C. Jain	Efficiency Bureau Branch
„ K. N. R. Pillay	Railway Corruption Enquiry Committee
„ N. L. Das Gupta	On leave preparatory to retirement
„ Surjan Singh	On leave preparatory to retirement
„ N. Rajagopalan	On leave preparatory to retirement
„ R. N. Dutta	On leave preparatory to retirement

Central Standards Office

Shri B. S. Sindhu	Chief Design Engineer-in-Charge
„ P. N. Talwar	Assistant Chief Design Engineer (Specification) (Officiating)
„ J. S. Bhavra	Sectional Officer (Civil) (Officiating)
„ A. V. Srinivasan	Sectional Officer (A) (Loco.) (Officiating)
„ K. S. Krishnan	Sectional Officer (B) (Loco) (Officiating)
„ G. Pershad	Sectional Officer (A) (C & W) (Officiating)
Vacant	Assistant Chief Design Engineer (Loco)
Vacant	Assistant Chief Design Engineer (Signals)
„ D. A. Fernandes	Sectional Officer (B) (C & W) (Officiating)
„ Shanti Nath	Sectional Officer (C) (Officiating)
„ V. Venkataramayya	Chief Design Engineer (Civil)

Central Standards Office—contd.

Shri L. C. Mohindra	Chief Design Engineer (Signals)
„ N. B. Shroff	Architect
„ C. S. Lal	Deputy Chief Design Engineer (C & W)
„ R. Krishnamurti	Deputy Chief Design Engineer (Loco)
„ S. S. Verma	Deputy Chief Design Engineer (Civil)
„ B. L. Bailur	Assistant Chief Design Engineer (C & W)
„ M. Menezes	Assistant Chief Design Engineer (Civil)
„ J. N. Gupta	Inspecting Officer (L & B)
„ N. N. Singh	Trainee Officer
„ Lal Das	Establishment Officer
„ S. K. Banerjee	Officer-in-Charge, Part Testing Organization (Loco)
„ S. S. Lal	Sectional Officer (Signals)
„ Salig Ram	Inspecting Officer for Railways
Vacant	Chief Design Engineer (Loco)
Vacant	Sectional Officer (Loco)

Railway Testing and Research Centre, Lucknow

Shri S. L. Kumar	Director, Research
„ R. G. Bhatawadekar	Joint Director (Metallurgical)
„ U. G. K. Rao	Joint Director (Soil Mechanical)
„ R. P. Basu Chowdhury	Deputy Director (Civil)
„ M. S. Murti	Deputy Director (Electrical)
„ M. N. Bery	Deputy Director (Information & Publication)
„ M. V. Kamlani	Deputy Director (Mechanical)
„ S. Ramanujam	Deputy Director (Metallurgical and Chemical)
Vacant	Deputy Director (Soil Mechanics)
„ B. V. Mallya	Asstt. Director, Information and Publication
„ K. G. Uppal	Dynamometer Car Officer
„ C. P. S. Sastry	Oscillograph Car Officer
„ M. B. Ram Chandani	Oscillograph Car Officer
„ S. Panchapagesan	Oscillograph Car Officer
„ V. R. S. Subramanian	Assistant Director, Metallurgical

Office of the Inspector-General, Railway Security Force, Allahabad

Shri B. N. Lahiri	Inspector-General, Railway Security Force
„ Qamrul Hasan	Assistant Inspector-General, Railway Security Force

Officers serving on Committees

Electric Traction Expert Advisory Committee at Bombay

Shri V. Seetharaman	Secretary

Railway Corruption Enquiry Committee at New Delhi

Shri H. N. Trivedi	Secretary
Kumari Shanti Srivastava	Private Secretary to the Chairman

Railway Workshop Reviewing Committee at New Delhi

Shri P. C. Kapoor	Chairman
„ C. Chelapati Rao	Secretary

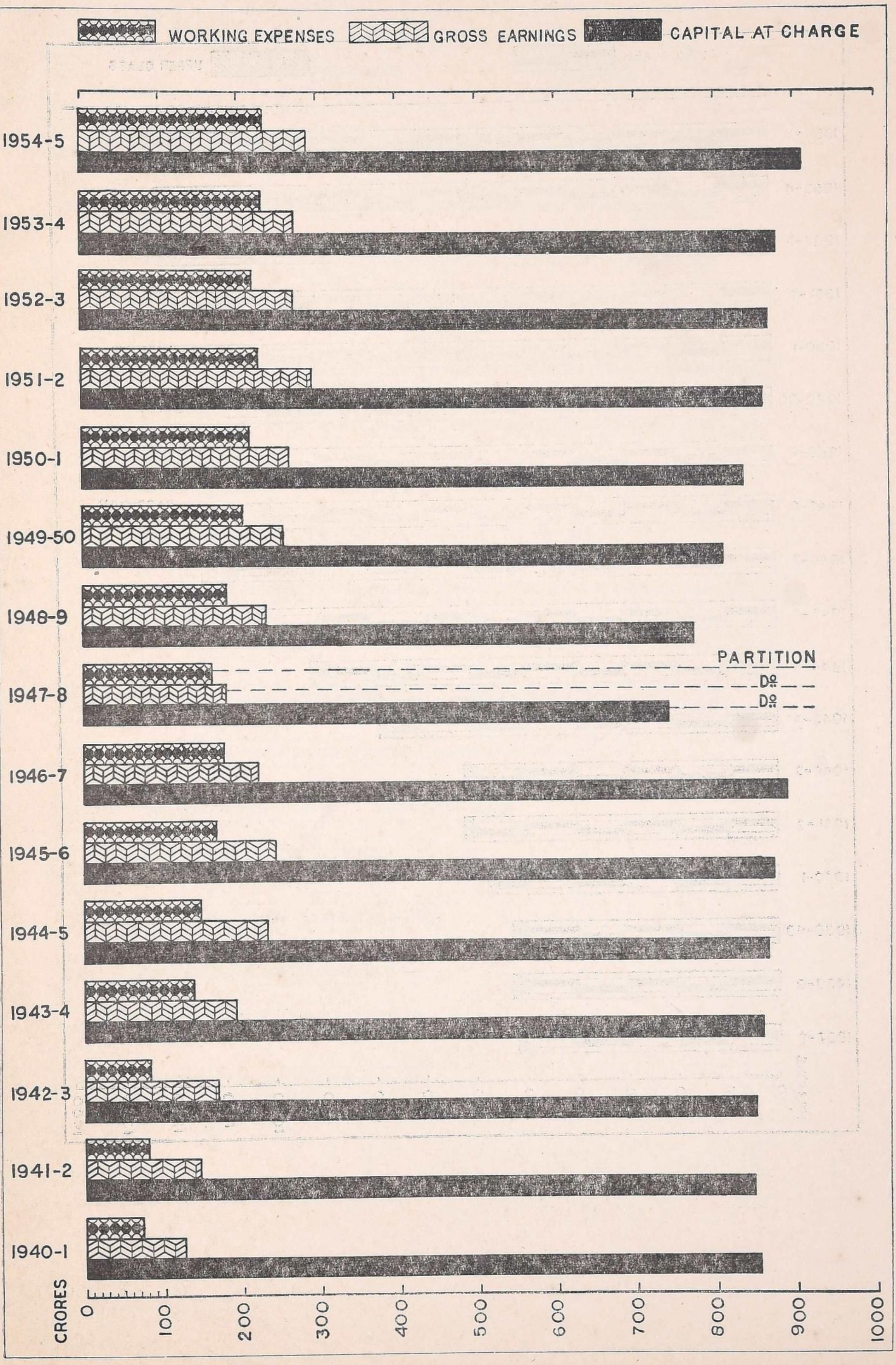
Railway Equipment Committee at New Delhi

Shri N. N. Tandon	Secretary

APPENDIX C

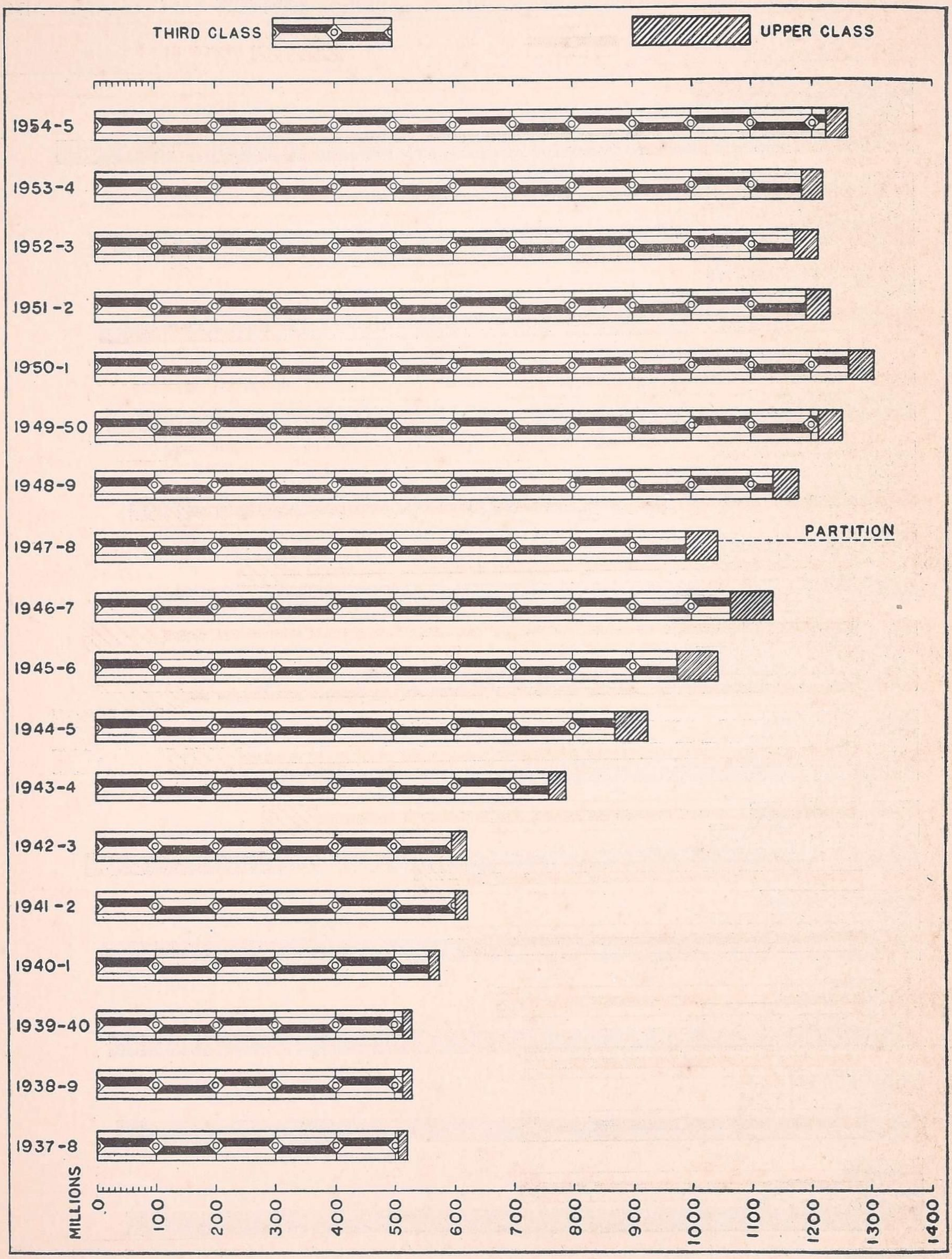
GRAPHS

I—TOTAL CAPITAL AT CHARGE, TOTAL GROSS EARNINGS AND TOTAL WORKING EXPENSES ALL INDIAN RAILWAYS

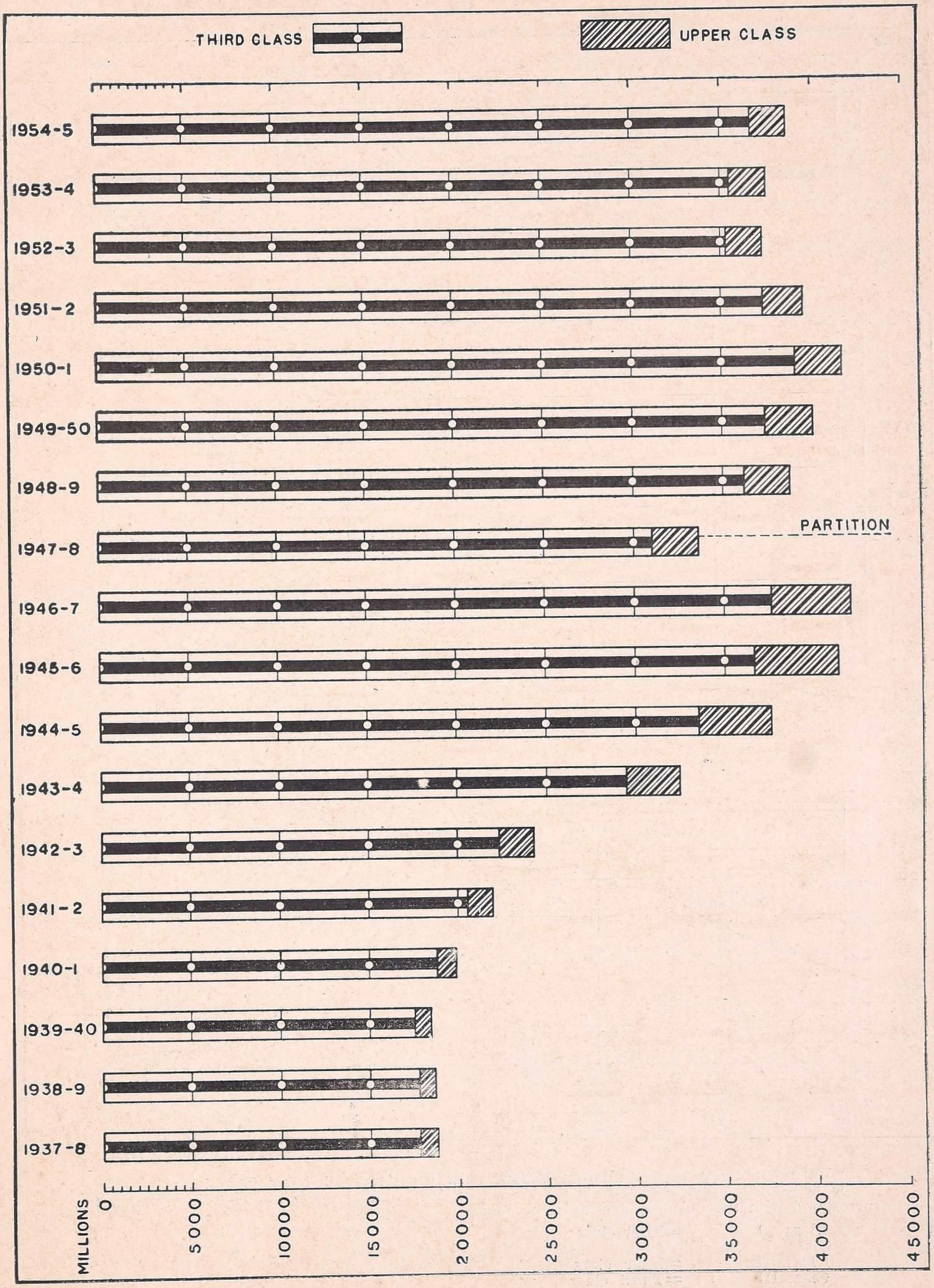


II—NUMBER OF PASSENGERS CARRIED

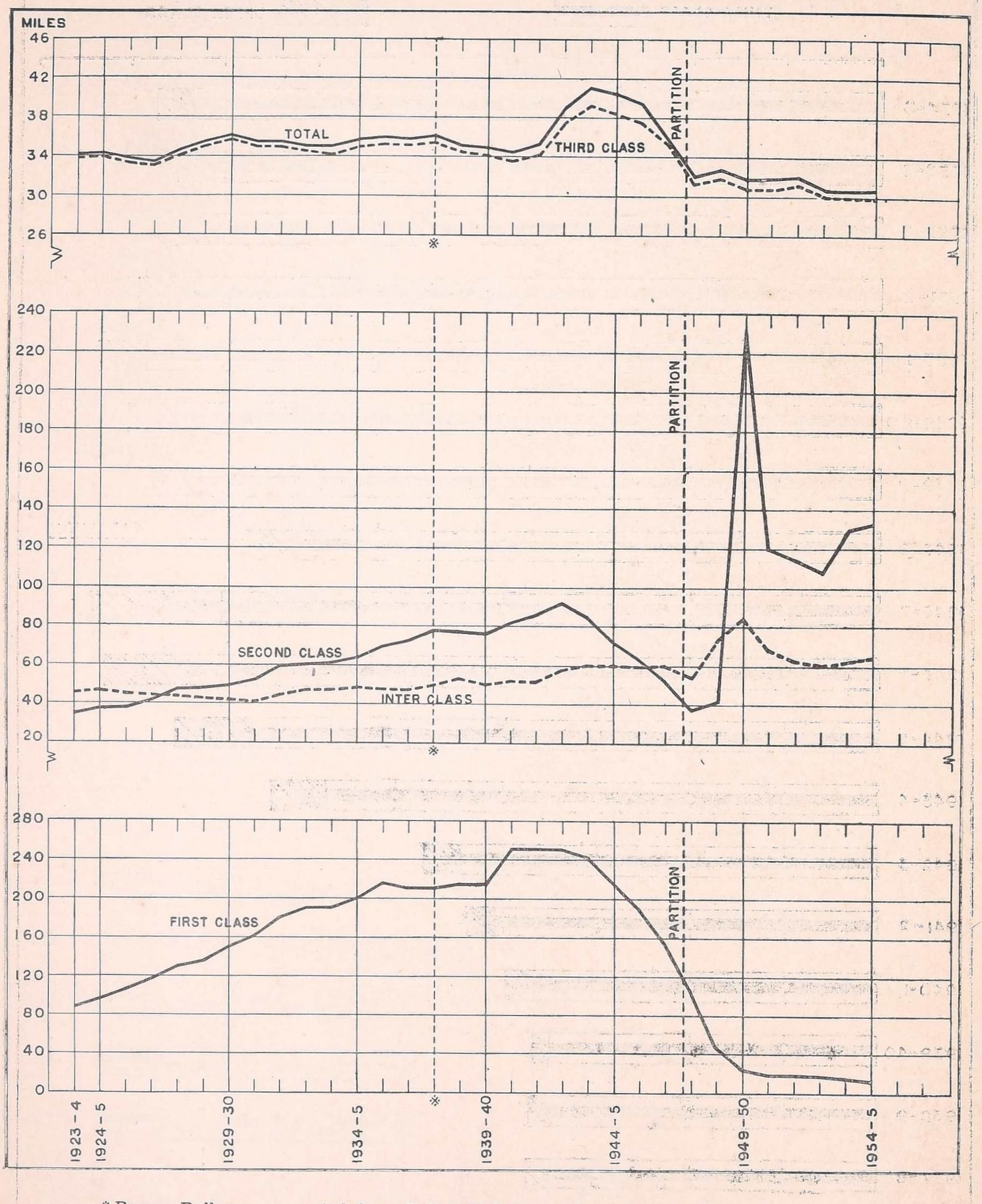
ALL INDIAN RAILWAYS



III—NUMBER OF PASSENGER MILES
ALL INDIAN RAILWAYS



IV—AVERAGE MILES A PASSENGER WAS CARRIED
(INCLUDING SUBURBAN AND NON-SUBURBAN TRAFFIC)
ALL INDIAN RAILWAYS



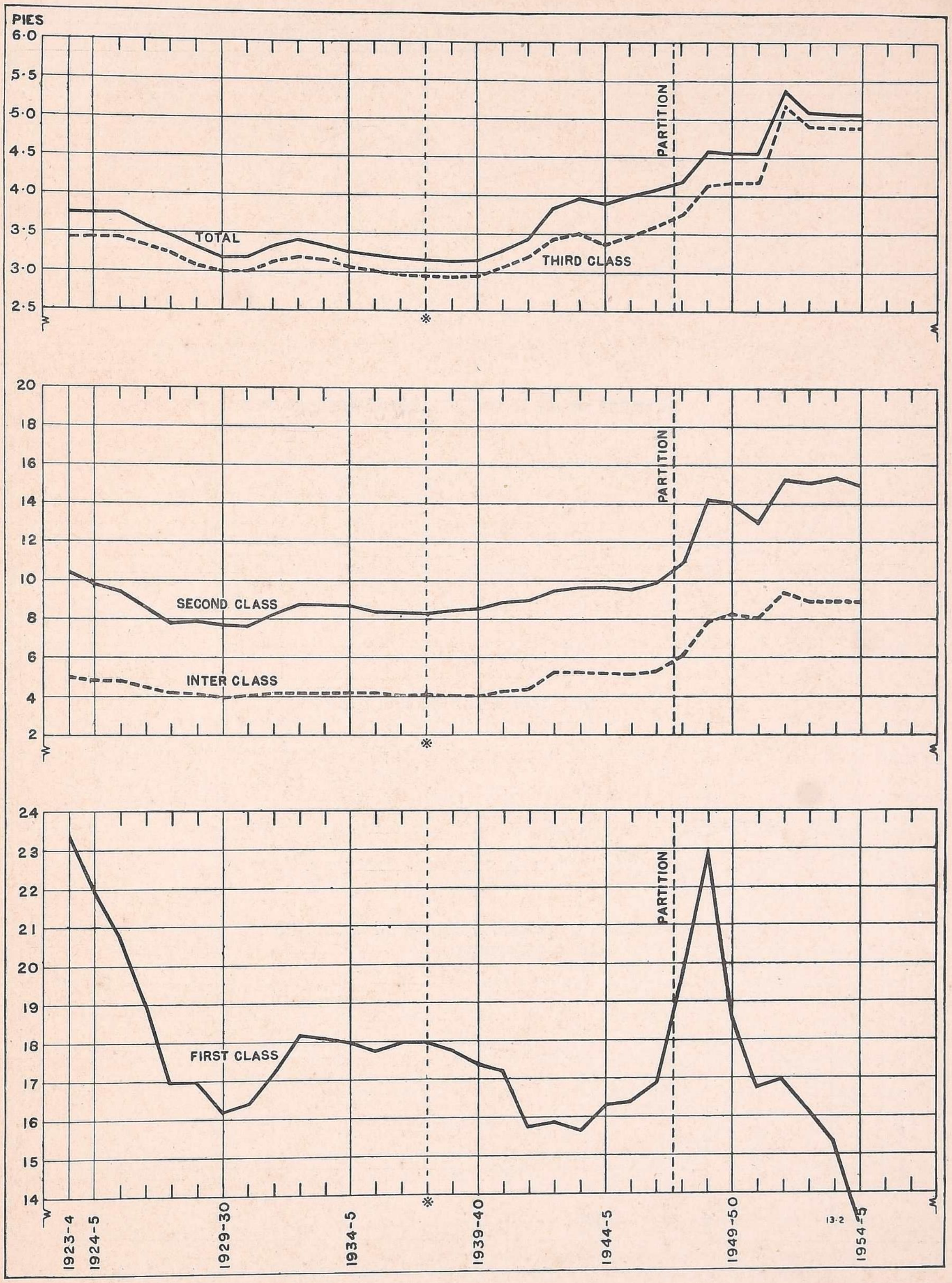
* Burma Railways separated from Indian Railway system with effect from 1 April 1937.

NOTE.—The classification between 1 December 1948 and 30 June 1950 has been taken to correspond with the old classification as under:—

Class I =First class
Class II Special=Second class
Class II =Inter class
Class III =Third class

V—AVERAGE RATE CHARGED PER PASSENGER PER MILE
(INCLUDING SUBURBAN AND NON-SUBURBAN TRAFFIC)

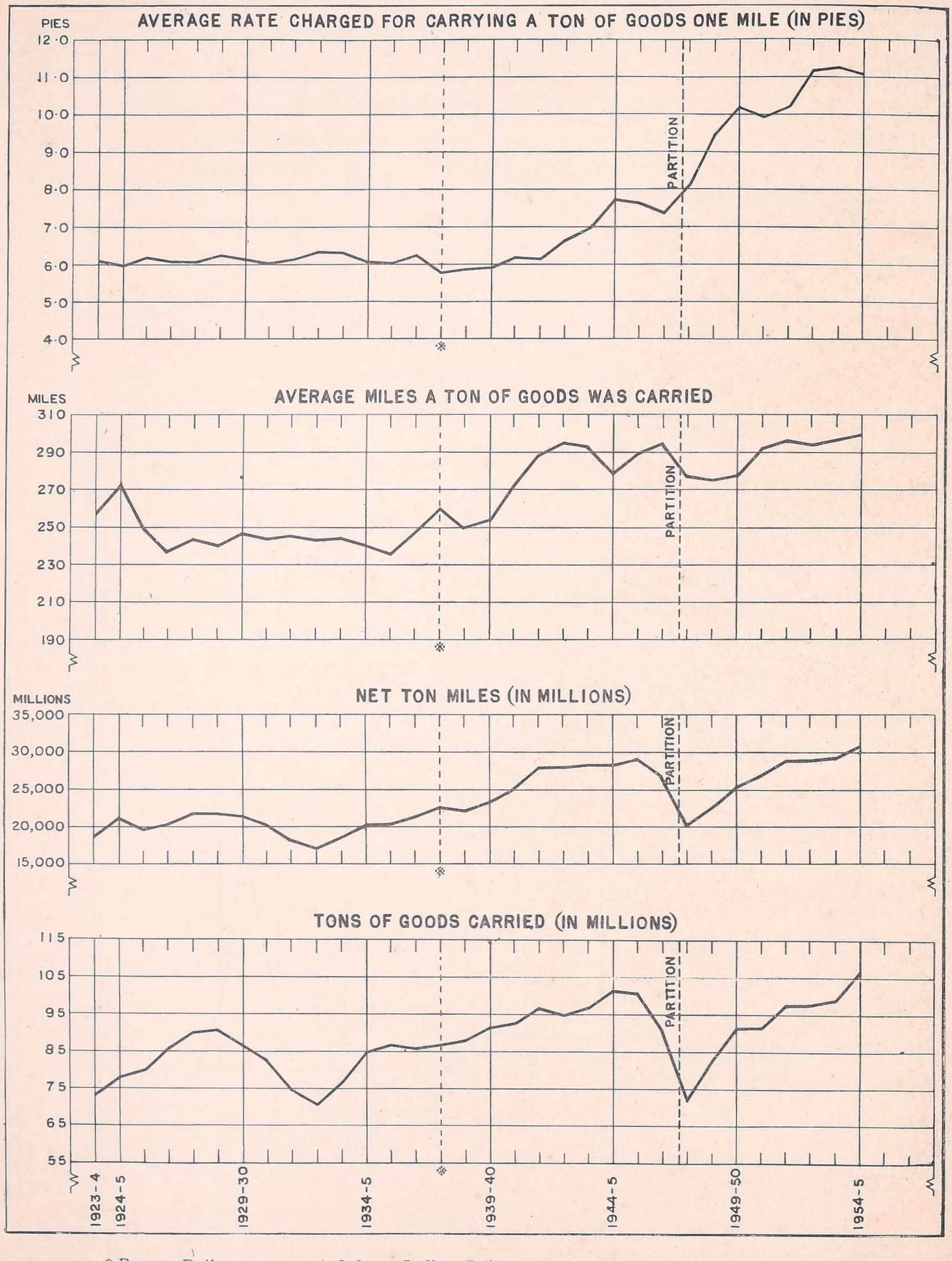
ALL INDIAN RAILWAYS



* Burma Railways separated from Indian Railway system with effect from 1 April 1937.

VI—AVERAGE RATE, AVERAGE LEAD, NET TON MILES, TONS CARRIED

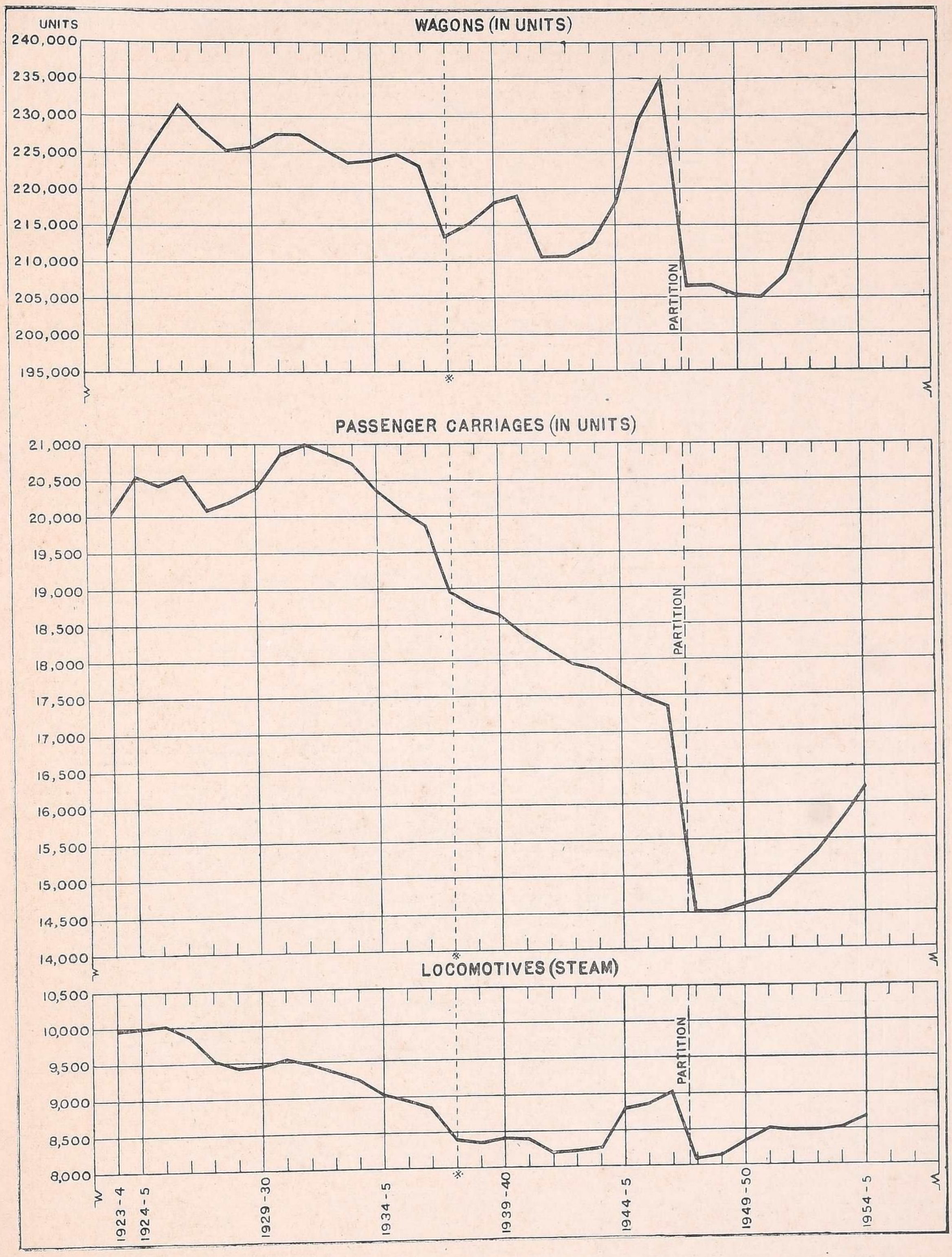
ALL INDIAN RAILWAYS



* Burma Railways separated from Indian Railway system with effect from 1 April 1937.

VII—ROLLING-STOCK IN SERVICE

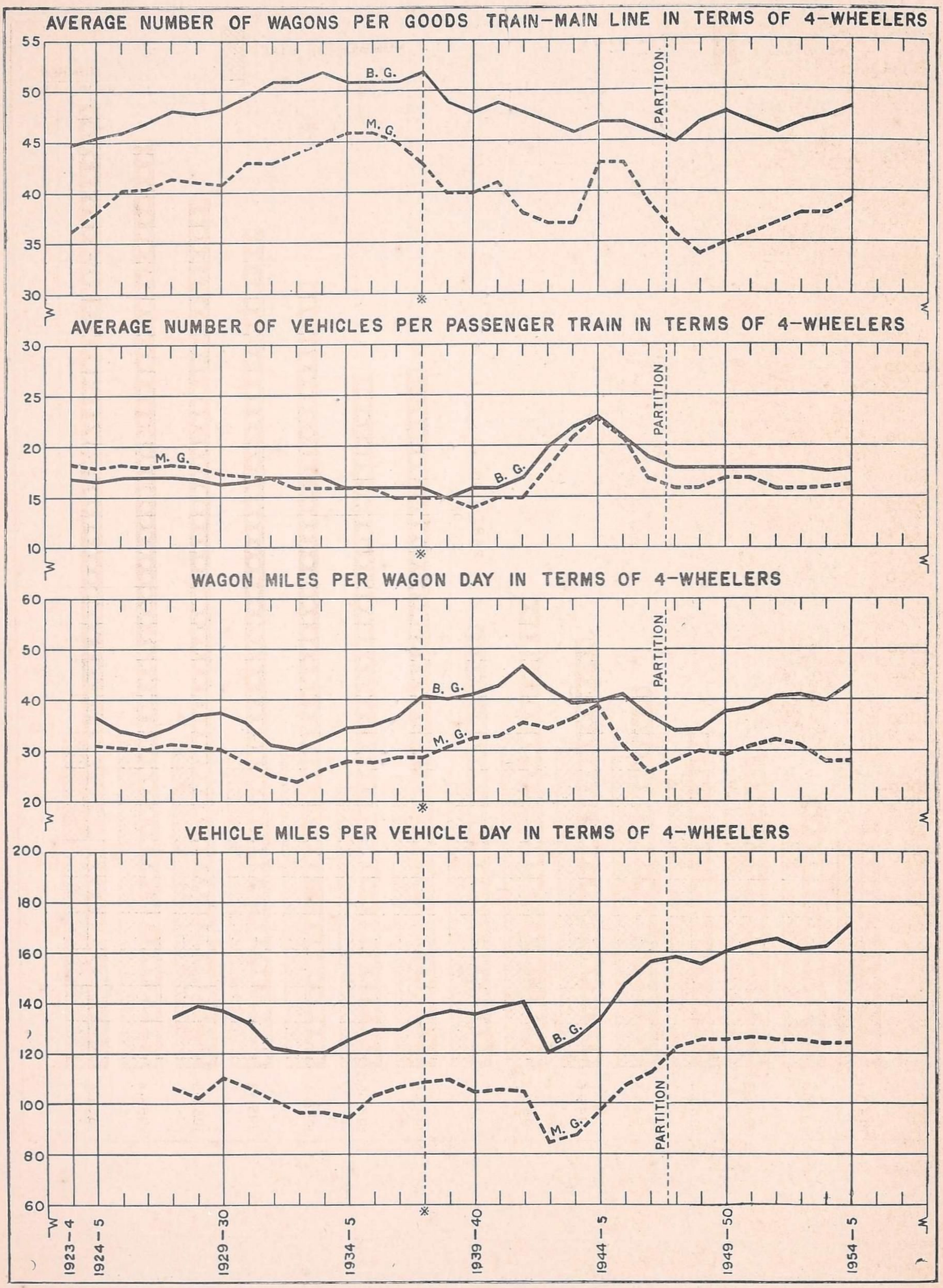
ALL INDIAN RAILWAYS



* Burma Railways separated from Indian Railway system with effect from 1 April 1937.

VIII—WAGON AND VEHICLE UTILIZATION

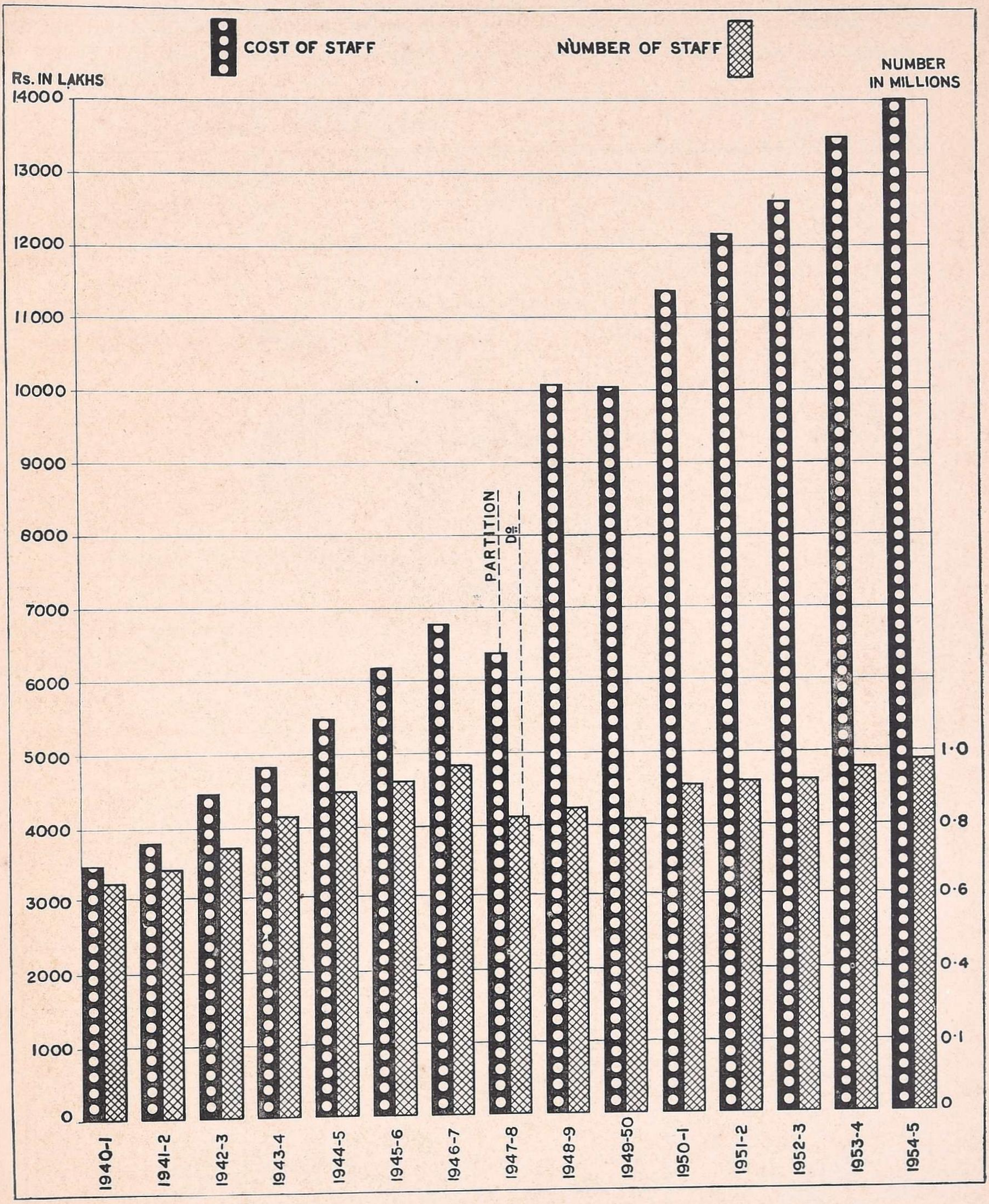
GOVERNMENT RAILWAYS



* Burma Railways separated from Indian Railway system with effect from 1 April 1937.

IX—TOTAL NUMBER AND COST OF STAFF

GOVERNMENT RAILWAYS



APPENDIX D

Railway Administrations in India alphabetically arranged by Classes showing the working agencies, ownership and route mileage open on 31 March 1955

Indian Railway systems have been classified under two classes for statistical purposes:

Government Railways
Non-Government Railways

Railway system: Name	Railway system: Worked by	Lines comprised in the system: Name	Lines comprised in the system: Gauge	Lines comprised in the system: Route mileage	Owned by
		GOVERNMENT RAILWAYS			
(1) Central	Indian Government	(a) Central	5′-6″	4,096	Indian Government.
		(b) Central	3′-3⅜″	772	Do.
		(c) Central	2′-6″	320	Do.
		(d) Ellichpur-Yeotmal	2′-6″	118	Branch Line Company under rebate terms.
		(e) Pulgaon-Arvi	2′-6″	22	Do.
		(f) Central	2′-0″	307	Indian Government.
(2) Eastern	Indian Government	(a) Eastern	5′-6″	4,778	Do.
		(b) Eastern	2′-6″	942	Do.
(3) Northern	Indian Government	(a) Northern	5′-6″	4,024	Do.
		(b) Rupar-Nangal*	5′-6″	35	Do.
		(c) Mukerian-Pathankot	5′-6″	26	Do.
		(d) Northern	3′-3⅜″	2,006	Do.
		(e) Kalka-Simla	2′-6″	60	Do.
		(f) Kangra Valley	2′-6″	68	Do.
		(g) Nagrota Joginder Nagar.	2′-6″	34	Do.
(4) North Eastern	Indian Government	(a) North-Eastern†	5′-6″	2	Do.
		(b) North-Eastern	3′-3⅜″	4,683	Do
		(c) Chaparmukh-Silghat‡	3′-3⅜″	51	Branch Line Company under guarantee terms.
		(d) Katakhal-Lalabazar‡	3′-3⅜″	23	Do.
		(e) Tezpur-Balipara	2′-6″	3	Indian Government.
		(f) Darjeeling-Himalayan	2′-0″	52	Do.
(5) Southern	Indian Government	(a) Southern	5′-6″	1,782	Do.
		(b) Cochin Harbour Extension	5′-6″	4	Cochin Harbour Authority.
		(c) Tenali-Repalle	5′-6″	21	District Board, Guntur.
		(d) Southern	3′-3⅜″	4,097	Indian Government.
		(e) Alnavar-Dandeli (Provincial)	3′-3⅜″	19	Government of Bombay.

* Jointly owned by the Government of India and the Government of Punjab.

† This line is laid between Haldibari and Pakistan Border for direct communication with Pakistan.

‡ This line is guaranteed by the Government of India and also received a subsidy from the Assam Government for the first ten years.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
(5) Southern—*contd.*	Indian Government	(*f*) West of India Portuguese	3′-3⅜″	51	West of India Portuguese Railway Company.
		(*g*) Peralam-Karaikkal	3′-3⅜″	15	Indian Government.
		(*h*) Pondicherry	3′-3⅜″	8	Do.
		(*i*) Nanjangud Town-Chamarajanagar	3′-3⅜″	22	District Boards, Mysore and Mandya.
		(*j*) Southern	2′-6″	96	Indian Government.
(6) Western	Indian Government	(*a*) Western	5′-6″	1,289	Do.
		(*b*) Western	3′-3⅜″	3,573	Do.
		(*c*) Western	2′-6″	752	Do.
		NON-GOVERNMENT RAILWAYS			
(1) Ahmad pur-Katwa	Ahmadpur-Katwa Railway Co.	Ahmadpur-Katwa*	2′-6″	33	Branch Line Company under guarantee terms.
(2) Arrah-Sasaram Light	Arrah-Sasaram Light Railway Co.	Arrah-Sasaram Light	2′-6″	65	Company subsidized by District Board of Shahabad.
(3) Bankura-Damodar River	Bankura-Damodar River Railway Co.	Bankura-Damodar River*	2′-6″	60	Branch Line Company under guarantee terms.
(4) Barasat-Basirhat Light	Barasat-Basirhat Light Railway Co.	Barasat-Basirhat Light	2′-6″	52	Company subsidized by District Board of 24-Parganas.
(5) Bengal Provincial	Bengal Provincial Railway Co.	(*a*) Bengal Provincial (*b*) Dasghara-Jamalpurganj*	2′-6″ 2′-6″	33 8	Unassisted Company. Branch Line Company under guarantee terms.
(6) Bukhtiarpur-Bihar Light	District Board, Patna	Bukhtiarpur-Bihar Light	2′-6″	33	District Board of Patna.
(7) Burdwan-Katwa	Burdwan-Katwa Railway Co.	Burdwan-Katwa*	2′-6″	32	Branch Line Company under guarantee terms.
(8) Dehri-Rohtas Light	Dehri-Rohtas Light Railway Co.	Dehri-Rohtas Light	2′-6″	24	Company subsidized by District Board of Shahabad.
(9) Futwah-Islampur	Futwah-Islampur Light Railway Co.	Futwah-Islampur*	2′-6″	27	Branch Line Company under guarantee terms.
(10) Howrah-Amta Light	Howrah-Amta Light Railway Co.	Howrah-Amta Light	2′-0″	44	Company subsidized by District Boards of Howrah and Hooghly and Municipality of Howrah.
(11) Howrah-Sheakhala Light	Howrah-Sheakhala Light Railway Co.	Howrah-Sheakhala Light	2′-0″	20	Do.
(12) Jagadhri Light	Jagadhri Light Railway Co.	Jagadhri Light	2′-0″	3	Unassisted Company.
(13) Kalighat-Falta	Kalighat-Falta Railway Co.	Kalighat-Falta*	2′-6″	26	Branch Line Company under guarantee terms.
(14) Shahdara (Delhi) Saharanpur Light	Shahdara (Delhi) Saharanpur Light Railway Co.	Shahdara (Delhi) Saharanpur Light†	2′-6″	93	Company subsidized by the Government of India.

* Guaranteed by the Government of India.
† Received land only from Government.

APPENDIX E

Principal Statistics of Railway Working in Selected Foreign Countries

BRITISH RAILWAYS 1954*

Capital†	£1,512,848,257
Route mileage	19,151
Total Gross Receipts	£435,520,555
Working expenses	£418,951,279
Net traffic receipts	£16,569,276
Operating ratio	96%
Passenger journeys originating (in thousands)	991,193
Passenger miles estimated (in millions)	20,712
Passenger earnings (in thousands)	£116,617
Freight train traffic originating tons (in thousands)	283,498
Net ton miles (in millions)	22,089
Freight earnings (in thousands)	£272,838
Train miles—	
Coaching (in thousands)	238,067
Freight (in thousands)	140,327
Number of employees at end of year (including collection and delivery services)	577,183

* *British Transport Commission Financial and Statistical Accounts, 1954.*

† Capital represents the gross book value of rolling-stock, vehicles, plant and equipment, lands, buildings, permanent way, etc.

U. S. CLASS I RAILWAYS, 1954*

Investment in railway property used in transportation service (in thousands)	$32,440,436
Route miles†	224,816
Total operating revenue (in thousands)	$9,370,826
Total operating expenses (in thousands)	$7,384,499
Operating ratio	78·80%
Revenue passengers carried (in thousands)	439,356
Revenue passenger miles (in thousands)	29,286,013
Passenger revenue (in thousands)	$767,283
Revenue tons originated‡ (in thousands)	1,223,969
Revenue ton miles‡ (in thousands)	549,258,800
Freight revenue (in thousands)	$7,797,885
Train miles—	
Passenger (in thousands)	317,141
Freight (in thousands)	447,122
Number of employees (in thousands)	1,065

* *Statistics of Railways of Class I, United States, Calendar years 1946 to 1954, Statistical Summary No. 39, October 1955, Association of American Rail Roads, Bureau of Railway Economics.*

† Average miles represented by income account.

‡ Short tons of 2,000 lbs.

CANADIAN RAILWAYS, 1954

	Canadian National Railways*	Canadian Pacific Railways†
Capital‡	$2,709,209,619	$1,694,213,632
Average mileage of road operated	24,155	17,003
Total operating revenues	$640,637,280	$422,642,423
Total operating expenses	$626,465,374	$395,609,497
Net operating revenues	$14,171,906	$27,032,926
Operating ratio	97·79%	93·6%
Passengers carried (Revenue)	17,858,916	9,528,589
Passenger miles (Revenue)	1,471,708,931	1,282,242,000
Passenger revenue	$43,757,015	$36,117,957
Tons carried (Revenue)	79,338,230	54,205,877
Net ton miles of freight (Revenue)	32,881,706,496	23,668,342,000
Freight revenue	$502,830,806	$345,822,589
Train miles—		
Passenger service	24,315,627	20,277,178
Freight service	41,691,390	31,297,097
Number of employees	Not available	87,072

* *Annual Report, Canadian National Railways, 1954.*

† *Canadian Pacific Railway Company Annual Report, 1954.*

‡ Represents Property Investment account at the end of the year 1954.

SOUTH AFRICAN RAILWAYS, 1953-4*

Total capital expenditure	£351,805,789
Mileage of open lines as at 31 March 1954	13,413
Total earnings	£113,076,529
Total working expenditure (including depreciation)	£74,455,840
Surplus of earnings over gross working expenditure	£38,620,689
Operating ratio	65·85%
Passenger journeys	275,039,245
Earnings-Passenger	£17,145,482
Total tonnage† of revenue-earning traffic	62,444,648
Earnings—Goods, coal and live-stock	£85,735,817
Total train miles run	90,337,784
Total staff at 31 March 1954	195,216

**Report of the General Manager of Railways and Harbours for the year ended 31 March 1954.*

† Short ton of 2,000 lbs.

AUSTRALIAN RAILWAYS

	New South Wales Railways 1953-4*	Victorian Railways 1953-4*	Queensland Railways† 1954-5 (a)	Western Australian Government Railways 1954-5 (a)	South Australian Railways 1954-5(a)
Capital (Open lines)	£223,801,582	£87,292,612‡	£70,391,168	£42,993,999	£45,738,053
Miles open	6,101	4,482	6,484	4,111	2,564
Earnings	£74,569,111	£35,706,527	£30,732,061	£12,530,410	£12,997,814
Working expenses	£68,196,624	£35,950,413‖	£30,206,891	£13,935,329	£15,061,481
Net earnings	£6,372,487	£—243,886	£525,170	£—1,404,919	£—2,063,667
Operating ratio	91·45%	100·68%	98·29%	111·21%	115·88%
Passenger journeys	278,904,236	166,105,399	35,756,132	10,138,948	16,849,319
Passenger miles	Not available	1,857,958,758	Not available	145,552,603	269,205,628
Passenger revenue	£21,722,268§	£9,819,401	£3,234,717	£959,670	£1,354,989
Tonnage of goods and live-stock (Paying)	19,350,610¶	9,200,583	8,212,294	3,406,634	4,497,377
No. of tons carried one mile (Paying)	Not available	1,269,771,728	1,376,781,225	556,504,766	677,220,561
Total goods revenue (including live-stock)	£52,846,843	£22,654,713	£25,427,999	£10,359,555	£10,285,109
Train mileage—					
Passenger	21,888,485	12,808,171	7,073,497	2,584,436	4,008,622
Goods	14,811,304	5,494,735	10,519,739	5,184,790	3,207,629
No. of staff	55,215	29,344	28,348	13,554	11,643

* *Annual Report for the year ended 30 June 1954.*

† Exclusive of Uniform Gauge Railway.

‡ Capital reduced by £25,594,906, Railway (Finance Adjustment) Act 1936.

‖ Exclusive of £80,000 charged to Accrued Leave Reserve.

¶ Does not include live-stock tonnage.

§ Represents earnings from coaching, rents, &c.

(a) *Annual Report for the year ended 30 June 1955.*

Books and Technical Papers published by the Railway Board

BOOK

(1) Report by the Railway Board on Indian Railways. Published yearly. Price: Volume I—Report Rs. 6-6-0 or 10*sh.* Volume II—Statistics, Rs. 8-0-0 or 13*sh.* (1953-4).

(2) Indian Railways, 1953-4. Published yearly. Price: Rs. 2-0-0.

(3) Classified List of Gazetted Establishment of Indian Railways corrected up to 31 December 1955.

(4) History of Indian Railways, constructed and in progress corrected up to 31 March 1951. Published sexennially. Price: Rs. 10-6-0 or 16*sh.* 6*d.*

TECHNICAL PAPERS

(5) Over 330 papers have been published by the Technical Section of the Railway Board's Office. The papers comprise:

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere.
(*b*) Reprints of articles from foreign engineering magazines.
(*c*) Reprints of abstracts of reports received by the Government of India on subjects connected with railways.

A complete list of the papers can be obtained *gratis* by Railways from the Director, Research, Railway Testing and Research Centre, Alambagh, Lucknow. A few of the more important Technical papers are mentioned below:—

Technical Paper	*Name*	*Author*
No. 72.	The design of well foundation for bridges	(Compiled.)
„ 148.	Statistics of Railway working expenditure	G. DEUCHARS
„ 153.	River training and control on the guide bank system	F. J. E. SPRING
„ 215.	The Hardinge Bridge over the Ganges Lower at Sara	SIR ROBERT GALES
„ 219.	Technical education in relation to railways in America	H. L. COLE
„ 239.	The Central Control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS
„ 242.	Railway Statistics and the Operating Officer	MAJOR F. H. BUDDEN
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